

ASG-DataManager™ Example Book

Version 2.5

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Germany	00.800.3354.3578	South Korea	001.800.9932.5536
Hong Kong	001.800.9932.5536	Sweden/Telia	009.800.9932.5536
Ireland	00.800.9932.5536	Switzerland	00.800.9932.5536
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DATAMANAGER

EXAMPLE BOOK



U S E R N O T I C E

Notice Number 1

Date of issue: 10 October 1983.

Number of pages in this issue: 2.

This notice relates to DATAMANAGER releases 4.1.0, 4.1.1 and 5.0.

If there are any queries regarding this notice, please contact your local MSP Product Support office at the address listed on the card at the front of your MANAGER Products ring binder.

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Item 1

Development Intentions

MSP intends, in 1984, to replace the:

DATAMANAGER Example Book

by a new publication:

MANAGER Products Demonstration and Training Guide.

This publication will contain examples and demonstrations of the use of DESIGNMANAGER, SOURCEMANAGER and CONTROLMANAGER as well as DATAMANAGER.

The Demonstration and Training Guide will be based on a new dictionary, called the DEMO Dictionary, which will replace the present Example Dictionary. The DEMO Dictionary will be supplied to all MANAGER Products users, just as the Example Dictionary is now supplied to all DATAMANAGER users.

Item 2

DATAMANAGER Release 5.0 Deliverables

Because of the extensive scope of the DEMO Dictionary project, as an interim measure you will receive with your DATAMANAGER Release 5.0 a Release 5.0 compatible Example Dictionary that illustrates Release 4.1 features. When the DEMO Dictionary and the Demonstration and Training Guide become available they will illustrate all MANAGER Products at the then current Release levels.

Item 3**References in DATAMANAGER Release 5.0 and CONTROLMANAGER Release 1.0 Documentation**

DATAMANAGER Release 5.0 and CONTROLMANAGER Release 1.0 documentation will contain references to the MANAGER Products Demonstration and Training Guide and to the DEMO Dictionary. Until the Demonstration and Training Guide and the DEMO Dictionary are distributed to users, any such references should be interpreted as referring to the DATAMANAGER Example Book and to the Example Dictionary respectively.

PREFACE

This manual is one of a series describing DATAMANAGER, the data dictionary software developed by MSP for use on IBM System/360, System/370, 30xx and 4300 series and compatible machines. The manual describes the DATAMANAGER Example Data Dictionary, its purposes and use.

This edition, for Releases 4.0 and 4.1 of DATAMANAGER, supersedes the Fifth Edition. It is assumed that the reader has a knowledge of DATAMANAGER to the extent covered by the Fact Book. Other documents necessary for a full understanding of parts of this publication are mentioned in section 1.4.

Technical manuals in the DATAMANAGER series are separate Installation manuals for OS and DOS Environments; the User's Guide; the Messages Manual, in which all diagnostic messages that can be output by DATAMANAGER are listed; the Controller's Manual, circulation of which is restricted to those responsible for the administration of a data dictionary; and a separate manual for each of the separate DATAMANAGER Facilities (Audit and Security, Automation of Set Up, Source Language Generation, User Defined Syntax, various interface facilities, etc.). Other training manuals in the DATAMANAGER series include How To Get Started, and a set of Visuals for use in presentations and training courses.

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1.1**THE DATAMANAGER EXAMPLE DICTIONARY**

The DATAMANAGER example dictionary contains a simulated personnel system using conventional files and on-line access, and is provided by MSP to:

- promote client evaluation and understanding of the DATAMANAGER data dictionary approach to data management, by means of actual trial or demonstration
- exemplify, on a small scale, some of the many DATAMANAGER approaches and solutions to data management problems; for example, in the adoption of naming standards and data security protocols
- demonstrate the ability of DATAMANAGER to handle User Defined Syntax and to interface with IMS (DL/I), ADABAS, IDMS, TOTAL and SYSTEM 2000/80 database management systems and with the MARK IV file management system.

Access to the DATAMANAGER example dictionary is available at organised DATAMANAGER presentations and/or from the DATAMANAGER installation tape for use during acceptance evaluation.

Access to the DATAMANAGER example dictionary at an organised presentation will be provided by your local Product Support Office. How to set up the dictionary from the DATAMANAGER installation tape is described in the Controller's Manual, section 5.4.

1.2**THE DATAMANAGER EXAMPLE BOOK**

The DATAMANAGER Example Book is a hard copy record of the personnel system defined in the example dictionary and of suggested examples and demonstrations using it.

Chapter 2 presents a description of the personnel system itself and of the naming conventions and user access protocols implemented.

1.2
(continued)

Chapter 3 shows, in a series of seven demonstrations, basic DATAMANAGER interrogation, documentation and manipulation, together with source language and record layout generation, security, status, and user defined syntax features applied to the conventional file personnel system defined in the example dictionary.

Chapters 4 to 9 show, by way of simple demonstrations only, the DATAMANAGER interfaces between the data dictionary and TOTAL, ADABAS, IMS (DL/I), SYSTEM 2000/80, IDMS and MARK IV.

Chapter 10 shows use of the DATAMANAGER User Interface facility, to produce a software development summary from the dictionary.

Chapter 11 shows a demonstration of newly released features of DATAMANAGER, and is intended for experienced DATAMANAGER users. The demonstration illustrates features introduced in releases 4.0 and 4.1 that are new to users of release 3.0.

Chapters 3 to 11 have been set directly from a DATAMANAGER print file (with some compaction), using MSP's TEXTMANAGER.

If you look at the demonstration at the start of Chapter 3 (for example), you will see the demonstration number (X200) in the top left hand corner, followed by a brief descriptive narrative on the purpose of the demonstration in the right hand portion of the heading box, and the commands which are to be demonstrated in the left hand portion of the box. The DATAMANAGER output of the demonstration immediately follows the box, with DATAMANAGER input lines shown in bold print to aid clarity. Manually added annotation is shown in italics.

An index of demonstrated commands appears at the back of this manual. In addition, Figure 1.1 on page 1-4 shows a quick-guide index to demonstrated commands or command sequences of interest in specific functional areas; for example, the production of different types of reports from the dictionary to meet the requirements of management, auditor or analyst.

1.3

SUPPLEMENTARY MATERIAL

A Controller's Supplement to the DATAMANAGER Example Book is available on a restricted basis. It shows the restricted commands that were used in the creation of the DATAMANAGER example dictionary, and exemplifies use of restricted commands in dictionary administration and maintenance.

The DATAMANAGER example dictionary and Example Book form a package which relates to other DATAMANAGER documentation and can be used in a variety of ways:

- Preliminary Evaluation. To minimise your time and effort in acquainting yourself with DATAMANAGER during a preliminary evaluation, use Chapters 2 and 3 of the DATAMANAGER Example Book to gain an appreciation of the benefits of using DATAMANAGER for the personnel system defined. Your study of Chapter 3 will be helped if you relate the commands demonstrated to the DATAMANAGER Command Syntax card. This will enable you to see how the commands shown fit in with the overall command syntax. You should find it simple to formulate your own commands and, at a DATAMANAGER presentation, to try them. (Related documentation includes the DATAMANAGER Fact Book, Command Syntax card, Definition Syntax card and the DATAMANAGER User's Guide.)
- Detailed Evaluation. At the detailed evaluation stage you will be studying the DATAMANAGER technical reference documentation relevant to your environment. The DATAMANAGER example dictionary can be a valuable start to an evaluation project normally carried out during acceptance testing. Details of installing DATAMANAGER and the example dictionary are contained in the Installation in OS Environments and Installation in DOS Environments manuals. (Related documentation includes How To Get Started, the DATAMANAGER User's Guide, the Controller's Manual, the Controller's Supplement to the Example Book and the appropriate DATAMANAGER facility manuals.)
- DATAMANAGER Demonstration. The example dictionary is an excellent ready-made tool for DATAMANAGER demonstrations. The command sequences shown in this manual may be used as a basis for a customised demonstration, and may be added to or re-sequenced as required. Three empty test statuses (TEST-1, TEST-2 and TEST-3) are provided in the dictionary for new definitions and structures to be incorporated for the purposes of the demonstration, without affecting the initial compatibility between the example dictionary and Example Book. (Related documentation includes the Command Syntax card and Definition Syntax Card.)

Figure 1.1 Quick-guide Index

FUNCTIONAL AREA			COMMAND REFERENCE
			DEMONSTRATIONS
MANAGER	Report	Formatted reports generated from the dictionary enable systems documentation to be produced on demand at any time during design, development or production.	REPORT P1-ERS, 3-2 REPORT P2-EHS, 3-4 X200, X210, X360
	Glossary	Selectively produced glossaries enable the scope and content of automatically generated documentation to be controlled.	GLOSSARY JOBS, 3-55 GLOSSARY REPORTS, 3-55 X200, X210, X360
	Query	DATAMANAGER's command/query language is plain English. Interrogation is straightforward and quick.	WHICH JOBS..., 3-55 WHAT IS..., 3-23 X200, X210, X360
AUDITOR	Documentation	Fully formatted and glossaried reports provide the auditor with standardised documentation. Development history can be followed.	GLOSSARY PROGRAMS..., 3-6 REPORT P1V01, 3-7 X200, X210
	Interrogation	Network interrogation at all levels is provided by DATAMANAGER to ascertain if all ramifications of a change were followed through.	WHICH GROUPS..., 3-10 WHAT CONSTITUTES..., 3-46 X200, X210
	Security	How secure is the system? How secure is the dictionary? DATAMANAGER allows user access protocols to be defined by the Controller.	AUTHORITY "AUDITOR", 3-41 MODIFY..., 3-41 X300
ANALYST	Documentation	System design and development through the dictionary enables up-to-date documentation to be obtained as a by-product.	GLOSSARY... 3-14 KEEP WHAT..., 3-21 X200, X210, X360
	Development	The DATAMANAGER status facility is a powerful tool in system maintenance enabling production and test system to coexist.	STATUS "TEST", 3-45 LIST NEW ITEMS, 3-45 X230, X320
	Generation	Record layout and source language generation in COBOL, PL/I and Assembler are direct benefits.	PRODUCE COBOL..., 3-36 PRODUCE PL/I..., 3-37 X250, X320
END USER	Standardisation	DATAMANAGER provides a work bench for standardising data definitions throughout the organisation, whether EDP-related or not.	PRINT EMPLOYEE-CODE, 3-10 BULK PRINT..., 3-29 X200, X210
	Cross-reference	Data items, files and procedures may be known by different names. DATAMANAGER allows all names to be recorded, and cross-reference lists produced.	GLOSSARY FILES..., 3-8 GLOSSARY ITEMS..., 3-24 X200, X210
	Lists	DATAMANAGER enables lists to be generated on many different selections - member type, category, name, kept-data ...	LIST CATALOGS, 3-20 LIST ALIASES, 3-23 X200, X210, X360

2.1

SYSTEMS P1-ERS AND P2-EHS

There are two conventional file systems defined in the DATAMANAGER example dictionary:

- Employee Records System (P1-ERS), maintains records of staff working for an organisation
- Employee History System (P2-EHS), maintains a history file which stores employee transactions.

The systems are defined in status CONV of the dictionary, and are described in Figures 2.1 to 2.3. The naming conventions are shown in Figure 2.4.

Demonstration of DATAMANAGER interrogation and documentation of the systems are shown in demonstration X200 and X210, and dictionary manipulation in demonstration X230.

The generation of COBOL, PL/I, and Assembler source language from dictionary definitions is demonstrated in X250, and the generation of record layouts in X250 and X320.

2.2

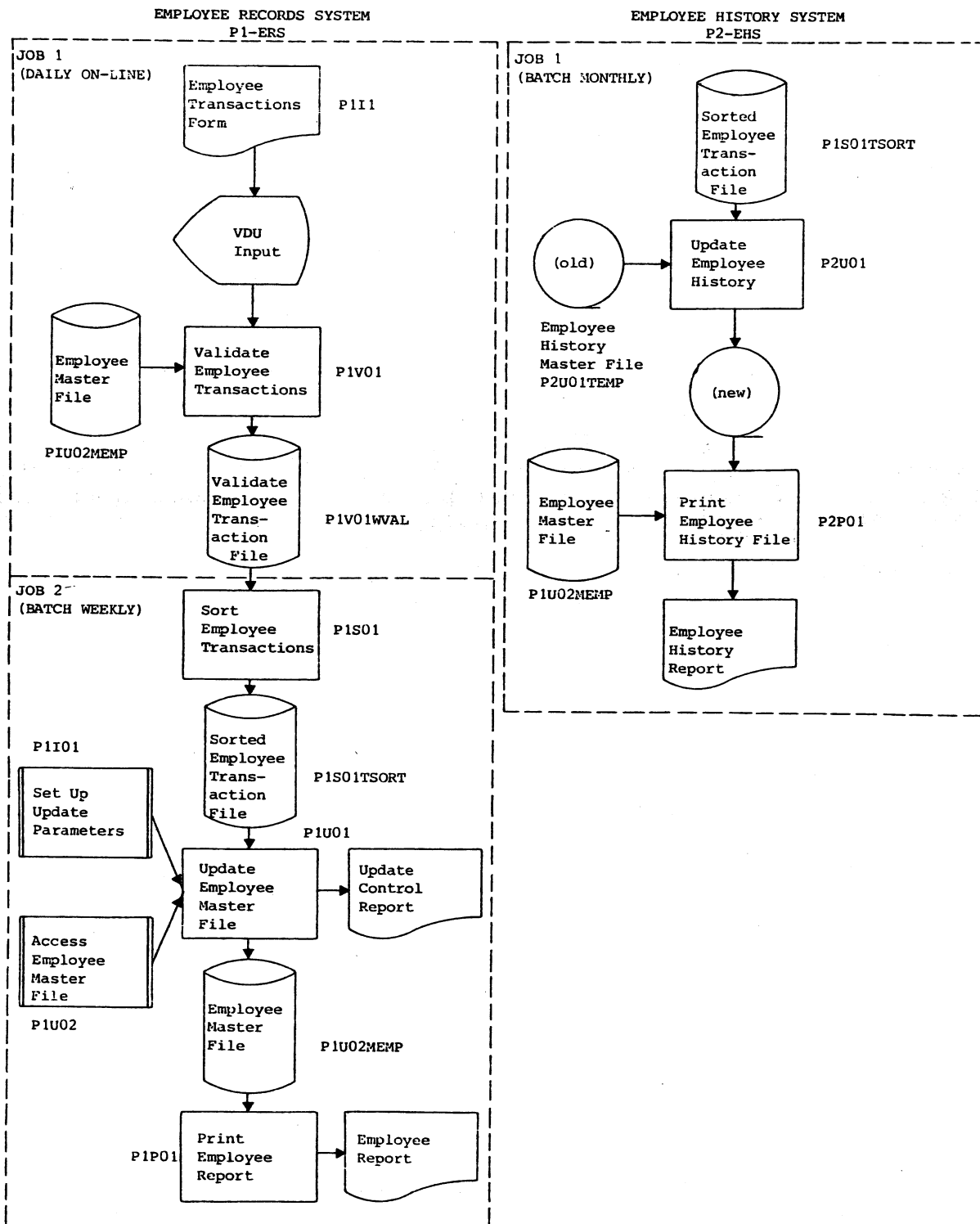
SECURITY AND USERS

Once a DATAMANAGER data dictionary has been opened, no further access is possible until a valid user authority password is entered.

For the DATAMANAGER example dictionary, the following users and passwords are defined:

User	Password
Analyst	ANALYST
Auditor	AUDITOR
End User	END-USER
Personnel Manager	P-MNGR
Programmer	PROG

Figure 2.1
PERSONNEL SYSTEMS FLOW CHARTS



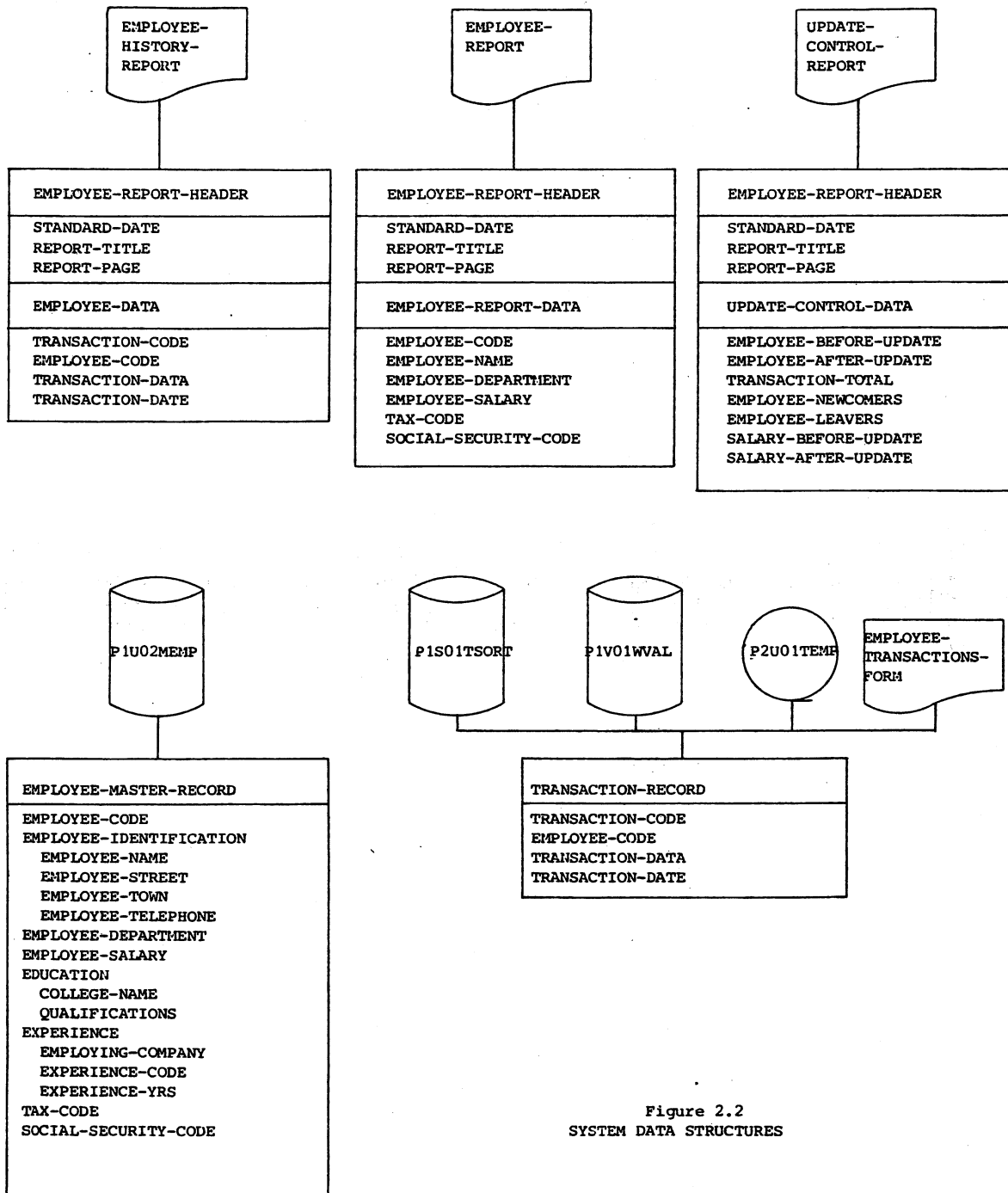
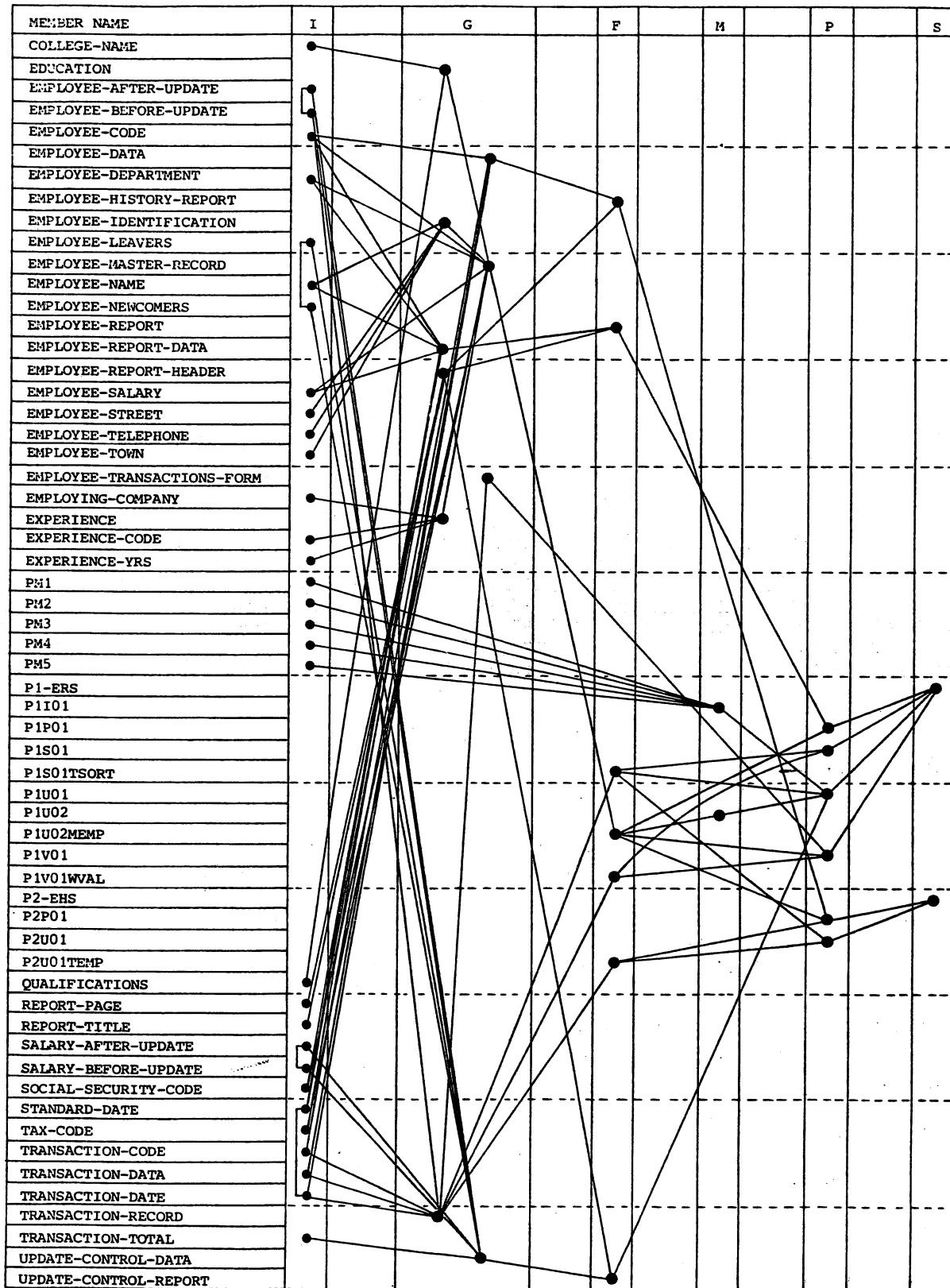


Figure 2.2
SYSTEM DATA STRUCTURES

Figure 2.3
SYSTEM RELATIONSHIP NETWORK



I - Item G - Group F - File M - Module P - Program S - System

Figure 2.4
PERSONNEL SYSTEM NAMING CONVENTIONS

ELEMENT	SYSTEM	PROGRAM/MODULE	FILE	OUTPUT-REPORT	INPUT-FORM	RECORD	GROUP/ITEM4
MEMBER TYPE	SYSTEM	PROGRAM/MODULE	FILE	FILE (Reported-as)	GROUP (Entered-as)	GROUP	GROUP/ITEM
FULL-NAME:							
MEMBER NAME	Pn-xxx Example: PI-ERS	Pn { V U P S } mm V - validation U - update P - print S - sort Example: P1V01	Pn { U mm T xxxxxx } { S } { W } M - master T - transactions W - work file Example: PIU02MEMP	name-REPORT Example: EMPLOYEE-REPORT	name-FORM Example: EMPLOYEE-TRANSACTIONS-FORM	name-RECORD Example: EMPLOYEE-MASTER-RECORD	name Example: EMPLOYEE-CODE
				LOW-LEVEL DATA NAME:			
ALIAS	Example: EMPLOYER-RECORDS-SYSTEM	Example: VALIDATE-EMPLOYEE-TRANSACTIONS	name-FILE Example: EMPLOYEE-MASTER-FILE	PnRm Example: PIR2	PnIm Example: PII1	Up to 8 characters Example: EMPMASRC	Up to 8 characters Example: EMPLOYEE-SALARY-CODE-DESCRIPTION-NUMERIC-CONTROL-TOTAL
				CODED-NAME:			
CATALOGUE KEYWORDS	PERSONNEL	ONLINE ASSEMBLER BATCH DAILY UPDATE WEEKLY PRINT MONTHLY SORT VALIDATION PACKAGE UTILITY COBOL	MASTER TRANSACTIONS WORK DISC TAPE	OUTPUT REPORT DAILY WEEKLY MONTHLY YEARLY VALIDATION CONTROL TERMINAL ON REQUEST	INPUT FORM	—	ITEMS ONLY
NOTE	FREE FORM DOCUMENTATION UNDER INDICATED HEADINGS:						
	DATES DEVELOPED SYSTEM EFFORT PROGRAMMING EFFORT PROJECT LEADER COMPUTER TIME USED OTHER COSTS LESSONS LEARNED PROCEDURES	DATES DEVELOPED DATE LAST AMENDED LAST AMENDMENT ANALYST PROGRAMMER INSTRUCTIONS-OPERATIONS INSTRUCTIONS-RECOVERY	SECURITY RECOVERY	REPORT IDENTIFICATION INSTRUCTIONS-USER INSTRUCTIONS-CONTROL DISTRIBUTION	FORM IDENTIFICATION INSTRUCTIONS-USER INSTRUCTIONS-KEYING INSTRUCTIONS-CONTROL VOLUME	INPUT FORM ACCURACY	
DESCRIPTION	ONE-LINE TITLE/ABSTRACT						
	abstract	purpose/function	file content	report title	input form title	user description	user description

n and m are number fields, xxx and xxxxxx are mnemonic fields

n and m are number fields, xxx and xxxxxx are mnemonic fields

2.2
(continued)

Different security protocols are defined in the DATAMANAGER example dictionary as shown tabulated below.

User Password	Non-protected members		Protected members		
	Access?	Insert?	Access?	Alter?	Remove?
ANALYST	Yes	Yes	Yes	Yes	No
AUDITOR	Yes	No	Yes	No	No
END-USER	Yes	No	No	No	No
P-MNGR	Yes	Yes	Yes	Yes	Yes
PROG	Yes	Yes	Yes	No	No

The security protocol used in the DATAMANAGER example dictionary has been defined such that, for example, an end-user or auditor is not allowed to modify the dictionary in any way - only to interrogate and/or obtain documentation from the dictionary. Analyst and programmer on the other hand, are permitted to make some changes (but not all). In addition, the personnel manager has decided to "protect" certain definitions in the dictionary, so that, for example the end-user is prevented from accessing them and only the personnel manager and analyst can modify them.

Some aspects of dictionary security are shown in demonstration X300.

2.3

DEVELOPMENT STATUS TEST

When a system is fully developed using DATAMANAGER and put into production its definition in the dictionary may be frozen by the data dictionary Controller. This makes it impossible for any user, regardless of security protocol, to make any changes to the definitions. The Controller may then allocate any number of test statuses in which the systems analyst has freedom to define and investigate the effects of proposed changes, either to the data structures or to the processing information defined. From the analyst's test status, the entire current system is visible amended with the changes he or she is testing. If or when the proposed changes are adopted, then the test status is frozen and so becomes the current production status (and the old production status becomes a superseded status).

2.3
(continued)

The DATAMANAGER example dictionary demonstrates this powerful tool in system maintenance as follows. The core of data items and groups used by the conventional file system in status CONV, is frozen (status DMR), and an unfrozen status called TEST is defined in which changes have been made to the definition of EMPLOYEE-MASTER-RECORD as viewed from that status: see demonstration X320.

Three empty test statuses TEST-1, TEST-2, and TEST-3 are also defined in the DATAMANAGER example dictionary for you to research new definitions and structures.

2.4

USER DEFINED SYNTAX AND DATABASE MANAGEMENT SYSTEMS EXTENSIONS

In the DATAMANAGER example dictionary, use has been made of the status feature to record views of the core of data items and groups (used by the conventional file system) to demonstrate the ability of DATAMANAGER to handle User Defined Syntax and to interface with the IMS, ADABAS, TOTAL, SYSTEM 2000/80, and IDMS database management systems and with the MARK IV file management system. Details are as follows:

Status	Description	Demonstration
ADA	holds sample definitions for the ADABAS database EMPLOYEE-DB.	X500 (Chapter 5)
IMS	holds sample definitions for the DL/I HDAM database EMPLOYEE-DATABASE-PHYSICAL and the DL/I logical dataset EMPLOYEE-DATABASE-LOGICAL.	X600 (Chapter 6)
IDMS	holds sample definitions for the IDMS database EMP-DB.	X700 (Chapter 7)
MKIV	holds sample definitions for the Mark IV file MASTER-FILE.	X750 (Chapter 9)
S2K	holds sample definitions for the SYSTEM 2000 database DIVISION.	X650 (Chapter 7)
TOT	holds sample definitions for the TOTAL database EMPLOYEE-DATABASE.	X400 (Chapter 4)
UDS	holds a view of the conventional file system using the Extended Data Processing Structure (EDPS).	X360 (Chapter 3)

2.4
(continued)

The sample database definitions are for simple demonstration purposes only.

The copy of the example dictionary supplied on an installation tape contains the user defined syntax and database definitions in source form only. It is therefore necessary to encode the unverified data definitions in the status of interest as described in the Controller's Manual, section 5.4.

CHAPTER 3
BASIC DATAMANAGER DEMONSTRATIONS

COMMANDS DEMONSTRATED	DESCRIPTION
STATUS "CONV". AUTHORITY "ANALYST". LIST SYSTEMS. REPORT P1-ERS. KEEP WHAT CONSTITUTES P1-ERS. LIST KEPT-DATA ALPHABETICALLY. REPORT P2-EHS. KEEP WHAT CONSTITUTES P2-EHS. LIST KEPT-DATA PROGRAMS. LIST KEPT-DATA FILES DETAILS-ONLY. LIST KEPT-DATA GROUPS, ITEMS ALPHABETICALLY DETAILS-ONLY. LIST ONLY "TRANSACTION". LIST WHEN ANY EQ "-CODE" DETAILS-ONLY. LIST WHEN ANY EQ "-CODE" OR ANY EQ "-DATE" DETAILS-ONLY. LIST WHEN ANY EQ "-CODE" AND ANY NE "EMPLOYEE" DETAILS-ONLY. GLOSSARY PROGRAMS ALPHABETICALLY GIVING DESCRIPTIONS. REPORT P1V01. WHICH FILES CONSTITUTE P1-ERS. GLOSSARY FILES GIVING ALIASES, DESCRIPTIONS. REPORT P1U02MEMP. WHICH ITEMS CONSTITUTE P1U02MEMP. PRINT EMPLOYEE-CODE. WHICH GROUPS USE EMPLOYEE-CODE. REPORT EMPLOYEE-MASTER-RECORD. REPORT EMPLOYEE-IDENTIFICATION HIERARCHY. GLOSSARY MEMBER P1U02MEMP GIVING REFERENCES. LIST DUMMIES. WHAT USES PM5 DIRECTLY. REPORT P1I01.	DATAMANAGER EXAMPLE DICTIONARY - BASIC INTERROGATION/DOCUMENTATION To show simple interrogation and documentation commands and outputs of the conventional file systems defined in status "CONV" of the DATAMANAGER example dictionary.

00073 STATUS "CONV".
 DM00096I NON-FROZEN STATUS CONV RECOGNISED

*Dict + AUTHORITY
 commands req'd first*

*Select status CONV - the status
 containing the conventional file
 systems.*

00074 AUTHORITY "ANALYST".
 DM01060I AUTHORITY RECOGNISED

00075 LIST SYSTEMS.

*List the systems defined in the
 dictionary.*

LIST OF SYSTEMS MEMBER NAME	TYPE	USAGE	CONDITION	AC	ALT	REM	OWNER
P1-ERS	SYSTEM	0	SCE	ENC	YES	YES	YES
P2-EHS	SYSTEM	0	SCE	ENC	YES	YES	YES
LIST CONTAINS	2 SYSTEMS						

X200

00076 REPORT P1-ERS.

Produce a formatted report of P1-ERS.

REPORT OF SYSTEM P1-ERS

EDITION 6 ENCODED BY MASTER AT 19.30.15 ON 20 JAN 1982
STATUS CONV
PROTECTION: NONE

ALIAS
EMPLOYEE-RECORDS-SYSTEM

CATALOGUED AS
PERSONNEL

DESCRIPTION
THIS SYSTEM MAINTAINS PRODUCTION DIVISION EMPLOYEE RECORDS

NOTE
DATES DEVELOPED
JANUARY 1979 TO AUGUST 1979

SYSTEM EFFORT
2 MAN-MONTHS FOR SYSTEM DESIGN
1 MAN-MONTHS FOR PROGRAM SPECIFICATIONS
3 MAN-MONTHS FOR SYSTEM TESTING,
USER TRAINING AND IMPLEMENTATION

PROGRAMMING EFFORT
4 MAN-MONTHS

PROJECT LEADER
ALAN JOHNSON (EXT. 253)

COMPUTER TIME USED
PROGRAM TESTING 1 HOUR 30 MINUTES
SYSTEM TESTING 0 HOUR 40 MINUTES
DEMONSTRATION 0 HOUR 25 MINUTES

OTHER COSTS
1 MAN-MONTH ORGANISATION AND METHODS STAFF
3 BOXES OF PLAIN ONE PART STATIONERY

COMMENT
1: DO NOT TEST ON-LINE PROGRAMS IN BATCH
MODE BY SIMULATING CARD READER AS INPUT
TERMINAL
2: ALWAYS CONSULT AUDITORS BEFORE FINALISING
DATA CONTROL REPORTS

FREQUENCY RUN DAILY JOB 1 ON-LINE
RUN WEEKLY JOB 2 BATCH

SEE P1-ERS-NEW-MEMBERS FOR ADDITIONS AND AMENDMENTS TO MEMBERS

THIS MEMBER IS DIRECTLY REFERRED TO 0 TIMES
THIS MEMBER CONTAINS 8 DIRECT REFERENCES

SYSTEM P1-ERS

INSTALLATION
HEAD OFFICE

SOURCE-COMPUTER
IBM S/370-158 OS/MVS

PARAMETERS NO DATA

INPUTS
GROUP EMPLOYEE-TRANSACTIONS-FORM

OUTPUTS
FILE UPDATE-CONTROL-REPORT
FILE EMPLOYEE-REPORT

UPDATES NO DATA

CALLS NO MEMBERS

CONTAINS
PROGRAM P1V01
PROGRAM P1S01
PROGRAM P1U01
PROGRAM P1P01

X200

00077 KEEP WHAT CONSTITUTES P1-ERS.
 DM01541I 54 ENTRIES ADDED TO KEPT-DATA LIST

00078 LIST KEPT-DATA ALPHABETICALLY.

MEMBER NAME	TYPE	USAGE	CONDITION	AC	ALT	REM	OWNER
COLLEGE-NAME	ITEM	1	SCE ENC YES YES YES				
EDUCATION	GROUP	1	SCE ENC YES YES YES				
EMPLOYEE-AFTER-UPDATE	ITEM	1	SCE ENC YES YES YES				
EMPLOYEE-BEFORE-UPDATE	ITEM	2	SCE ENC YES YES YES				
EMPLOYEE-CODE	ITEM	8	SCE ENC YES YES				PERSONNEL
EMPLOYEE-DEPARTMENT	ITEM	4	SCE ENC YES YES				PERSONNEL
EMPLOYEE-IDENTIFICATION	GROUP	1	SCE ENC YES YES YES				
EMPLOYEE-LEAVERS	ITEM	1	SCE ENC YES YES YES				
EMPLOYEE-MASTER-RECORD	GROUP	1	SCE ENC YES YES YES				
EMPLOYEE-NAME	ITEM	2	SCE ENC YES YES				PERSONNEL
EMPLOYEE-NEWCOMERS	ITEM	2	SCE ENC YES YES YES				
EMPLOYEE-REPORT	FILE	3	SCE ENC YES YES YES				
EMPLOYEE-REPORT-DATA	GROUP	1	SCE ENC YES YES YES				
EMPLOYEE-REPORT-HEADER	GROUP	3	SCE ENC YES YES YES				
EMPLOYEE-SALARY	ITEM	2	SCE ENC YES YES				PERSONNEL
EMPLOYEE-STREET	ITEM	1	SCE ENC YES YES YES				
EMPLOYEE-TELEPHONE	ITEM	1	SCE ENC YES YES YES				
EMPLOYEE-TOWN	ITEM	1	SCE ENC YES YES YES				
EMPLOYEE-TRANSACTIONS-FORM	GROUP	2	SCE ENC YES YES YES				
EMPLOYING-COMPANY	ITEM	1	SCE ENC YES YES YES				
EXPERIENCE	GROUP	1	SCE ENC YES YES YES				
EXPERIENCE-CODE	ITEM	1	SCE ENC YES YES YES				
EXPERIENCE-YRS	ITEM	1	SCE ENC YES YES YES				
PM1	ITEM	2	SCE ENC YES YES YES				
PM2	ITEM	2	SCE ENC YES YES YES				
PM3	ITEM	2	SCE ENC YES YES YES				
PM4	ITEM	2	SCE ENC YES YES YES				
PM5	ITEM	1	* DUM YES YES YES				
P1-ERS-NEW-MEMBERS	COMMAND-STRM	1	SCE ENC YES YES YES				
P1I01	MODULE	1	SCE ENC YES YES YES				
P1P01	PROGRAM	1	SCE ENC YES YES YES				
P1S01	PROGRAM	1	SCE ENC YES YES YES				
P1S01TSORT	FILE	3	SCE ENC YES YES YES				
P1U01	PROGRAM	1	SCE ENC YES YES YES				
P1U02	MODULE	2	SCE ENC YES YES YES				
P1U02MEMP	FILE	5	SCE ENC YES YES YES				
P1V01	PROGRAM	1	SCE ENC YES YES YES				
P1V01NVAL	FILE	2	SCE ENC YES YES YES				
QUALIFICATIONS	ITEM	1	SCE ENC YES YES YES				
REPORT-PAGE	ITEM	1	SCE ENC YES YES YES				
REPORT-TITLE	ITEM	1	SCE ENC YES YES YES				
SALARY-AFTER-UPDATE	ITEM	1	SCE ENC YES YES YES				
SALARY-BEFORE-UPDATE	ITEM	2	SCE ENC YES YES YES				
SOCIAL-SECURITY-CODE	ITEM	2	SCE ENC YES YES				PERSONNEL
STANDARD-DATE	ITEM	4	SCE ENC YES YES YES				
TAX-CODE	ITEM	2	SCE ENC YES YES				PERSONNEL
TRANSACTION-CODE	ITEM	4	SCE ENC YES YES YES				
TRANSACTION-DATA	ITEM	2	SCE ENC YES YES YES				
TRANSACTION-DATE	ITEM	2	SCE ENC YES YES YES				
TRANSACTION-RECORD	GROUP	4	SCE ENC YES YES YES				
TRANSACTION-TOTAL	ITEM	1	SCE ENC YES YES YES				
UPDATE-CONTROL-DATA	GROUP	1	SCE ENC YES YES YES				
UPDATE-CONTROL-REPORT	FILE	2	SCE ENC YES YES YES				

LIST CONTAINS 32 ITEMS
 9 GROUPS
 5 FILES
 2 MODULES
 4 PROGRAMS
 1 COMMAND-STREAM
 1 DUMMY
 53 MEMBERS IN TOTAL

By using a combination of KEEP and LIST we can produce a list of all members that constitute P1-ERS.

The first and second columns of the LIST command output show the member names and member types. The column headed USAGE indicates the number of references to each member. The column headed CONDITION shows whether a source record exists for the member (SCE), whether an encoded data entries record exists (ENC), or whether the member is a dummy (DUM). The asterisk indicates that the member definition is or may be incomplete.

The columns headed AC ALT and REM indicates whether the current user (in this case ANALYST) is able to access, alter and remove the listed member. The column headed OWNER gives the name of the owner (if any) of the listed member.

X200

00079 REPORT P2-EHS.

*Let us now report the second
system defined - P2-EHS.*

REPORT OF SYSTEM P2-EHS

EDITION 11 ENCODED BY MASTER AT 18.56.38 ON 20 JAN 1982
STATUS CONV
PROTECTION: NONE

ALIAS
EMPLOYEE-HISTORY-SYSTEM

CATALOGUED AS
PERSONNEL

DESCRIPTION
THIS SYSTEM MAINTAINS PRODUCTION DIVISION EMPLOYEE HISTORY

NOTE
DATES DEVELOPED
SEPTEMBER 1979

SYSTEM EFFORT
2 MAN-WEEKS FOR SYSTEM DESIGN
2 MAN-WEEKS FOR PROGRAM SPECIFICATIONS
2 MAN-WEEKS FOR SYSTEM TESTING

PROGRAMMING EFFORT
4 MAN-WEEKS

PROJECT LEADER
LYNDA SMITH OF UNIVERSAL SOFTWARE COMPANY,
NEW TOWN (TEL. 836 8399)

COMPUTER TIME USED
PROGRAM TESTING 0 HOUR 35 MINUTES
SYSTEM TESTING 0 HOUR 20 MINUTES

OTHER COSTS
1 BOX OF PLAIN ONE PART STATIONERY

COMMENT
1: DO NOT USE DISK FILES FOR HISTORY RECORDS
2: ALWAYS ALLOW FOR A TRANSACTION TYPE CODE
IN A HISTORY RECORD
3: ALWAYS STUDY LEGAL REQUIREMENTS BEFORE
RECORDING PERSONAL DETAILS ON A
HISTORY FILE

FREQUENCY MONTHLY BATCH

THIS MEMBER IS DIRECTLY REFERRED TO 0 TIMES
THIS MEMBER CONTAINS 3 DIRECT REFERENCES

SYSTEM P2-EHS

INSTALLATION
HEAD OFFICE

SOURCE-COMPUTER
S/370-165 OS/SVS

PARAMETERS NO DATA

INPUTS NO DATA

OUTPUTS
FILE EMPLOYEE-HISTORY-REPORT

UPDATES NO DATA

CALLS NO MEMBERS

CONTAINS
PROGRAM P2U01
PROGRAM P2P01

X200

00080 KEEP WHAT CONSTITUTES P2-EHS.
DM015411 34 ENTRIES ADDED TO KEPT-DATA LIST

00081 LIST KEPT-DATA PROGRAMS.

LIST OF SELECTED PROGRAMS

MEMBER NAME	TYPE	USAGE	CONDITION	AC	ALT	REM	OWNER
-------------	------	-------	-----------	----	-----	-----	-------

P2U01	PROGRAM	1	SCE ENC YES YES YES				
P2P01	PROGRAM	1	SCE ENC YES YES YES				

LIST CONTAINS 2 PROGRAMS

00082 LIST KEPT-DATA FILES DETAILS-ONLY.

EMPLOYEE-HISTORY-REPORT	FILE	2	SCE ENC YES YES YES				
P1S01TSORT	FILE	3	SCE ENC YES YES YES				
P2U01TEMP	FILE	3	SCE ENC YES YES YES				
P1U02NEMP	FILE	5	SCE ENC YES YES YES				

00083 LIST KEPT-DATA GROUPS, ITEMS

00084 ALPHABETICALLY DETAILS-ONLY.

COLLEGE-NAME	ITEM	1	SCE ENC YES YES YES				
EDUCATION	GROUP	1	SCE ENC YES YES YES				
EMPLOYEE-CODE	ITEM	8	SCE ENC YES YES YES				PERSONNEL
EMPLOYEE-DATA	GROUP	1	SCE ENC YES YES YES				
EMPLOYEE-DEPARTMENT	ITEM	4	SCE ENC YES YES YES				PERSONNEL
EMPLOYEE-IDENTIFICATION	GROUP	1	SCE ENC YES YES YES				
EMPLOYEE-MASTER-RECORD	GROUP	1	SCE ENC YES YES YES				
EMPLOYEE-NAME	ITEM	2	SCE ENC YES YES YES				PERSONNEL
EMPLOYEE-REPORT-HEADER	GROUP	3	SCE ENC YES YES YES				
EMPLOYEE-SALARY	ITEM	2	SCE ENC YES YES YES				PERSONNEL
EMPLOYEE-STREET	ITEM	1	SCE ENC YES YES YES				
EMPLOYEE-TELEPHONE	ITEM	1	SCE ENC YES YES YES				
EMPLOYEE-TOWN	ITEM	1	SCE ENC YES YES YES				
EMPLOYING-COMPANY	ITEM	1	SCE ENC YES YES YES				
EXPERIENCE	GROUP	1	SCE ENC YES YES YES				
EXPERIENCE-CODE	ITEM	1	SCE ENC YES YES YES				
EXPERIENCE-YRS	ITEM	1	SCE ENC YES YES YES				
QUALIFICATIONS	ITEM	1	SCE ENC YES YES YES				
REPORT-PAGE	ITEM	1	SCE ENC YES YES YES				
REPORT-TITLE	ITEM	1	SCE ENC YES YES YES				
SOCIAL-SECURITY-CODE	ITEM	2	SCE ENC YES YES YES				PERSONNEL
STANDARD-DATE	ITEM	4	SCE ENC YES YES YES				
TAX-CODE	ITEM	2	SCE ENC YES YES YES				PERSONNEL
TRANSACTION-CODE	ITEM	4	SCE ENC YES YES YES				
TRANSACTION-DATA	ITEM	2	SCE ENC YES YES YES				
TRANSACTION-DATE	ITEM	2	SCE ENC YES YES YES				
TRANSACTION-RECORD	GROUP	4	SCE ENC YES YES YES				

00085 LIST ONLY "TRANSACTION".

LIST OF MEMBERS

MEMBER NAME	TYPE	USAGE	CONDITION	AC	ALT	REM	OWNER
-------------	------	-------	-----------	----	-----	-----	-------

TRANSACTION-CODE	ITEM	4	SCE ENC YES YES YES				
TRANSACTION-DATA	ITEM	2	SCE ENC YES YES YES				
TRANSACTION-DATE	ITEM	2	SCE ENC YES YES YES				
TRANSACTION-RECORD	GROUP	4	SCE ENC YES YES YES				
TRANSACTION-TOTAL	ITEM	1	SCE ENC YES YES YES				

LIST CONTAINS 4 ITEMS
1 GROUP
5 MEMBERS IN TOTAL

00086 LIST WHEN ANY EQ "-CODE" DETAILS-ONLY.

EMPLOYEE-CODE	ITEM	8	SCE ENC YES YES YES				PERSONNEL
EXPERIENCE-CODE	ITEM	1	SCE ENC YES YES YES				
SOCIAL-SECURITY-CODE	ITEM	2	SCE ENC YES YES YES				PERSONNEL
TAX-CODE	ITEM	2	SCE ENC YES YES YES				PERSONNEL
TRANSACTION-CODE	ITEM	4	SCE ENC YES YES YES				

00087 LIST WHEN ANY EQ "-CODE" OR ANY EQ "-DATE"

00088 DETAILS-ONLY.

EMPLOYEE-CODE	ITEM	8	SCE ENC YES YES YES				PERSONNEL
EXPERIENCE-CODE	ITEM	1	SCE ENC YES YES YES				
SOCIAL-SECURITY-CODE	ITEM	2	SCE ENC YES YES YES				PERSONNEL
STANDARD-DATE	ITEM	4	SCE ENC YES YES YES				
TAX-CODE	ITEM	2	SCE ENC YES YES YES				PERSONNEL
TRANSACTION-CODE	ITEM	4	SCE ENC YES YES YES				
TRANSACTION-DATE	ITEM	2	SCE ENC YES YES YES				

00089 LIST WHEN ANY EQ "-CODE" AND ANY NE "EMPLOYEE"

00090 DETAILS-ONLY.

EXPERIENCE-CODE	ITEM	1	SCE ENC YES YES YES				
SOCIAL-SECURITY-CODE	ITEM	2	SCE ENC YES YES YES				PERSONNEL
TAX-CODE	ITEM	2	SCE ENC YES YES YES				PERSONNEL
TRANSACTION-CODE	ITEM	4	SCE ENC YES YES YES				

We now use a combination of KEEP and LIST commands to list members that constitute P2-EHS, but instead of producing a single list of members as for P1-ERS, we have asked DATAMANAGER to produce lists of specific member types.

Note that each of the three LIST commands (for PROGRAMS, FILES, and GROUPS and ITEMS) specifies KEPT-DATA. The kept-data list is retained internally by DATAMANAGER until another KEEP command is encountered.

DATAMANAGER's selection options may be applied to members' names as well as member types, for example, listing only those members with names beginning with "TRANSACTION", those members having "-CODE" as part of their names, or any of the more complex selections shown.

X200

00091 GLOSSARY PROGRAMS ALPHABETICALLY GIVING DESCRIPTIONS.

GLOSSARY OF PROGRAMS

PIP01

PROGRAM

DESCRIPTION

THIS PROGRAM PRINTS EMPLOYEE MASTER FILE

PIS01

PROGRAM

DESCRIPTION

THIS PROGRAM SORTS EMPLOYEE TRANSACTIONS IN EMPLOYEE CODE SEQUENCE

PIU01

PROGRAM

DESCRIPTION

THIS PROGRAM UPDATES EMPLOYEE MASTER FILE

PIV01

PROGRAM

DESCRIPTION

THIS PROGRAM VALIDATES EMPLOYEE TRANSACTIONS WHICH ARE ENTERED VIA V.D.U.

P2P01

PROGRAM

DESCRIPTION

THIS PROGRAM PRINTS EMPLOYEE HISTORY REPORT

P2U01

PROGRAM

DESCRIPTION

THIS PROGRAM UPDATES EMPLOYEE HISTORY MASTER FILE

GLOSSARY CONTAINS 6 PROGRAMS

Use of the GLOSSARY command enables report glossaries or abstracts to be generated. For example a glossary of all programs giving descriptions.

X200

00092 REPORT P1V01.

REPORT OF PROGRAM P1V01

EDITION 9 ENCODED BY MASTER AT 16.30.40 ON 18 JAN 1982
STATUS CONV
PROTECTION: NONE

ALIAS
VALIDATE-EMPLOYEE-TRANSACTIONS

CATALOGUED AS
ONLINE
VALIDATION
PACKAGE
DAILY

DESCRIPTION
THIS PROGRAM VALIDATES EMPLOYEE TRANSACTIONS WHICH ARE ENTERED VIA V.D.U.

NOTE
DATES DEVELOPED
FEBRUARY 1979

DATE LAST AMENDED
15 AUGUST 1979

LAST AMENDMENT
A TRANSACTION CODE ADDED TO CATER FOR
PART TIME EMPLOYEE
AMENDMENT REQUESTED BY NORMAN BURR

INSTRUCTIONS - CONTROL
MAXIMUM V.D.U. USAGE TIME ALLOWED IS ONLY
30 MINUTES PER DAY. INFORM LYNDA JACKSON
OF PERSONNEL DEPT (EXT. 798) IF THE TIME
IS EXCEEDED

INSTRUCTIONS - RECOVERY
RECOVER FILE P1V01WAL AND CONTACT PERSONNEL
DEPT. TO GIVE DETAILS OF THE LAST VALID
TRANSACTION RECORDED IN THE FILE

COMMENT
1: INPUT MESSAGE LENGTH SHOULD BE RESTRICTED
TO 75 CHARACTERS
2: VALIDATION ERROR MESSAGES SHOULD BE
SELF-EXPLANATORY. DO NOT USE ERROR CODES
TO SAVE SCREEN SPACE

FREQUENCY DAILY ONLINE

ACCESS-AUTHORITY PETER LEWIS

THIS MEMBER IS DIRECTLY REFERRED TO ONCE
THIS MEMBER CONTAINS 3 DIRECT REFERENCES

PROGRAM P1V01

AUTHOR
UNIVERSAL SOFTWARE COMPANY. IN HOUSE AMENDMENTS BY
PETER LEWIS (ANALYST), CATHY JOHNSON (PROGRAMMER)

PARAMETERS NO DATA

INPUTS
FILE P1V02MEMP
GROUP EMPLOYEE-TRANSACTIONS-FORM

OUTPUTS
FILE P1V01WVAL

UPDATES NO DATA

CALLS NO MEMBERS

CONTAINS NO MEMBERS

*Let us select one of the programs
from the glossary, say P1V01, and
produce a formatted report of it.*

*Reports are generated from the
encoded data entries record and
structured by DATAMANAGER in a
standard fashion that depends on the
member type:*

... full-name alias

... catalogue keywords

... one-line description

... free-form documentation

... references to and from P1V01

*... P1V01 reads the employee master
file P1V02MEMP and the input form
EMPLOYEE-TRANSACTIONS-FORM*

*... and outputs the validation file
P1V01WVAL.*

X200

00093 WHICH FILES CONSTITUTE P1-ERS.

THE FOLLOWING SELECTED MEMBERS SATISFY THE GIVEN CRITERIA

FILE	UPDATE-CONTROL-REPORT
FILE	EMPLOYEE-REPORT
FILE	P1U02MEMP
FILE	P1V01WVAL
FILE	P1S01TSORT

5 MEMBERS IN TOTAL

00094 GLOSSARY FILES GIVING ALIASES, DESCRIPTIONS.

GLOSSARY OF SELECTED MEMBERS

EMPLOYEE-HISTORY-REPORT

FILE
ALIAS
1 P2R1
DESCRIPTION
MONTHLY EMPLOYEE HISTORY REPORT

EMPLOYEE-REPORT

FILE
ALIAS
1 P1R2
DESCRIPTION
WEEKLY EMPLOYEE DETAILS REPORT

P1S01TSORT

FILE
ALIAS
1 SORTED-EMPLOYEE-TRANSACTION-FILE
DESCRIPTION
THIS FILE STORES VALIDATED EMPLOYEE TRANSACTIONS IN EMPLOYEE-CODE SEQUENCE

P1U02MEMP

FILE
ALIAS
1 EMPLOYEE-MASTER-FILE
DESCRIPTION
THIS FILE STORES PERSONAL DETAILS OF EMPLOYEE

P1V01WVAL

FILE
ALIAS
1 VALIDATED-EMPLOYEE-TRANSACTIONS-FILE
DESCRIPTION
THIS FILE STORES VALIDATED EMPLOYEE TRANSACTIONS

P2U01TEMP

FILE
ALIAS
1 EMPLOYEE-HISTORY-MASTER-FILE
DESCRIPTION
THIS FILE STORES CUMULATIVE EMPLOYEE TRANSACTIONS

UPDATE-CONTROL-REPORT

FILE
ALIAS
1 P1R1
DESCRIPTION
WEEKLY EMPLOYEE UPDATE CONTROL REPORT

GLOSSARY CONTAINS 7 FILES
7 MEMBERS PROCESSED

We can also directly interrogate the dictionary to find which files constitute the system P1-ERS,

or we can use GLOSSARY to obtain full-name aliases and descriptions for all files.

Such a glossary could be used as abridged documentation relating the file names as known by different departments in an organisation.

X200

00095 REPORT P1U02MEMP.

REPORT OF FILE P1U02MEMP

EDITION 7 ENCODED BY MASTER AT 16.31.00 ON 18 JAN 1982
STATUS CONV
PROTECTION: NONE

ALIAS
EMPLOYEE-MASTER-FILE

CATALOGUED AS
MASTER
DISC

DESCRIPTION
THIS FILE STORES PERSONAL DETAILS OF EMPLOYEE

NOTE
SECURITY
AT THE END OF THE WEEKLY UPDATE RUN,
DUMP THE FILE ON A TAPE

THIS MEMBER IS DIRECTLY REFERRED TO 5 TIMES
THIS MEMBER CONTAINS 2 DIRECT REFERENCES

FILE P1U02MEMP

GENERATION-CYCLE 3

RETENTION-PERIOD 1 MONTHS

SIZE 5000 TRACKS

ORGANISATION IS DIRECT
BLOCKING IS FIXED
BLOCK SIZE IS 205
RECORD SIZE IS 1000
LABELS ARE STANDARD-LABELS
DEVICE DISK 2314

SORT-KEY
ITEM EMPLOYEE-CODE ASCENDING

FORM HELD-AS
CONTAINS
GROUP EMPLOYEE-MASTER-RECORD

Compare this formatted report on the employee master file with that shown previously for program P1V01 (or either of the systems P1-ERS, P2-EHS). You will see that the top part is in a common format showing the common clauses.

It may be important for the use of these clauses to be standardised - refer to Figure 2.4 in Chapter 2 to see the naming conventions adopted in the example dictionary.

The second part of the report is formatted from specific clauses that depend on the member type. DATAMANAGER allows truncation of keywords on input, but uses the full expanded form when reporting.

X200

00096 WHICH ITEMS CONSTITUTE P1U02MEMP.

Let us find out which items constitute the employee master file, P1U02MEMP,

THE FOLLOWING ITEMS SATISFY THE GIVEN CRITERIA

ITEM	EMPLOYEE-CODE
ITEM	EMPLOYEE-NAME
ITEM	EMPLOYEE-STREET
ITEM	EMPLOYEE-TOWN
ITEM	EMPLOYEE-TELEPHONE
ITEM	EMPLOYEE-DEPARTMENT
ITEM	EMPLOYEE-SALARY
ITEM	COLLEGE-NAME
ITEM	QUALIFICATIONS
ITEM	EMPLOYING-COMPANY
ITEM	EXPERIENCE-CODE
ITEM	EXPERIENCE-YRS
ITEM	TAX-CODE
ITEM	SOCIAL-SECURITY-CODE

14 MEMBERS IN TOTAL

00097 PRINT EMPLOYEE-CODE.

and obtain a print of the source record of EMPLOYEE-CODE. The source record is an exact copy of the member definition as entered into the data dictionary.

PRINT OF EMPLOYEE-CODE

00100	ITEM
00200	ENTERED-AS ALPHANUMERIC 4
00300	HELD-AS NUMERIC 4 CONTENTS RANGE 1000 TO 8000
00400	REPORTED-AS PICTURE '9999'
07000	ALIAS LOW-LEVEL 'EMPCODE'
08000	CATALOG 'EMPLOYEE', 'CODE'
09000	DESCRIPTION
09100	'STANDARD EMPLOYEE CODE'
10000	NOTE
10100	'INPUT FORM XYZ'
10200	'EMPLOYEE-TRANSACTIONS-FORM'
	END OF PRINT

00098 WHICH GROUPS USE EMPLOYEE-CODE.

So far we have interrogated only in the downward direction using the keyword CONSTITUTES. Here is an example of interrogation in the upwards direction using the keyword USE.

THE FOLLOWING GROUPS SATISFY THE GIVEN CRITERIA

GROUP	TRANSACTION-RECORD
GROUP	EMPLOYEE-TRANSACTIONS-FORM
GROUP	EMPLOYEE-MASTER-RECORD
GROUP	EMPLOYEE-DATA
GROUP	EMPLOYEE-REPORT-DATA

5 MEMBERS IN TOTAL

X200

00099 REPORT EMPLOYEE-MASTER-RECORD.

*Let us report EMPLOYEE-MASTER-RECORD,
a GROUP member just shown to refer
to EMPLOYEE-CODE.*

REPORT OF GROUP EMPLOYEE-MASTER-RECORD

EDITION 6 ENCODED BY ANALYST AT 15.24.23 ON 12 SEP 1980
STATUS CONV
PROTECTION: NONE

ALIAS
LOW-LEVEL EMPMASRC

DESCRIPTION
EMPLOYEE MASTER FILE RECORD

THIS MEMBER IS DIRECTLY REFERRED TO ONCE
THIS MEMBER CONTAINS 11 DIRECT REFERENCES

GROUP EMPLOYEE-MASTER-RECORD

FORM HELD-AS

USER-EXIT P1U02

KEYS EMPLOYEE-CODE
EMPLOYEE-DEPARTMENT

CONTAINS
ITEM EMPLOYEE-CODE
GROUP EMPLOYEE-IDENTIFICATION
ITEM EMPLOYEE-DEPARTMENT
ITEM EMPLOYEE-SALARY
GROUP EDUCATION
GROUP EXPERIENCE
ITEM TAX-CODE
ITEM SOCIAL-SECURITY-CODE

X200

00100 REPORT EMPLOYEE-IDENTIFICATION HIERARCHY.

By use of the keyword HIERARCHY
we can obtain a report on a member
and on its contained members.

REPORT OF GROUP EMPLOYEE-IDENTIFICATION

EDITION 5 ENCODED BY MASTER AT 16.59.37 ON 13 DEC 1979
STATUS CONV
PROTECTION: NONE

ALIAS
LOW-LEVEL EMPIDEN

DESCRIPTION
NAME, ADDRESS AND TELEPHONE NUMBER OF AN EMPLOYEE

NOTE
ACCURACY
NAME CHECKED AGAINST BIRTH CERTIFICATE
ADDRESS AND TELEPHONE NUMBER NOT CHECKED

THIS MEMBER IS DIRECTLY REFERRED TO ONCE
THIS MEMBER CONTAINS 4 DIRECT REFERENCES

GROUP EMPLOYEE-IDENTIFICATION

FORM HELD-AS

CONTAINS
ITEM EMPLOYEE-NAME
ITEM EMPLOYEE-STREET
ITEM EMPLOYEE-TOWN
ITEM EMPLOYEE-TELEPHONE

REPORT OF ITEM EMPLOYEE-NAME

EDITION 5 ENCODED BY MASTER AT 16.59.37 ON 13 DEC 1979
STATUS CONV
PROTECTION: OWNER, REMOVE, ALTER, ACCESS
OWNED BY PERSONNEL

ALIAS
LOW-LEVEL EMPNAME

CATALOGUED AS
EMPLOYEE
DESCRIPTION

DESCRIPTION
EMPLOYEE SURNAME, FIRST NAME AND MIDDLE NAME

THIS MEMBER IS DIRECTLY REFERRED TO 2 TIMES
THIS MEMBER CONTAINS 0 DIRECT REFERENCES

ITEM EMPLOYEE-NAME

ENTERED-AS VERSION 1
CHARACTERS 30

HELD-AS VERSION 1
CHARACTERS 30

REPORTED-AS VERSION 1
PICTURE 'X(10)B(5)X(10)B(3)X(10)'

REPORT OF ITEM EMPLOYEE-STREET

EDITION 4 ENCODED BY MASTER AT 16.59.37 ON 13 DEC 1979
STATUS CONV
PROTECTION: NONE

ALIAS
LOW-LEVEL EMPSTR

CATALOGUED AS
EMPLOYEE
DESCRIPTION

DESCRIPTION
EMPLOYEE STREET NAME INCLUDING ANY APARTMENT NUMBER

THIS MEMBER IS DIRECTLY REFERRED TO ONCE
THIS MEMBER CONTAINS 0 DIRECT REFERENCES

ITEM EMPLOYEE-STREET

ENTERED-AS VERSION 1
CHARACTERS 40

HELD-AS VERSION 1
CHARACTERS 40

X200

REPORTED-AS VERSION 1
PICTURE 'X(40)'

REPORT OF ITEM EMPLOYEE-TOWN

EDITION 4 ENCODED BY MASTER AT 16.59.37 ON 13 DEC 1979
STATUS CONV
PROTECTION: NONE

ALIAS
LOW-LEVEL EMPDOWN

CATALOGUED AS
EMPLOYEE
DESCRIPTION

DESCRIPTION
EMPLOYEE HOME TOWN NAME AND POST CODE

THIS MEMBER IS DIRECTLY REFERRED TO ONCE
THIS MEMBER CONTAINS 0 DIRECT REFERENCES

ITEM EMPLOYEE-TOWN

ENTERED-AS VERSION 1
CHARACTERS 20

HELD-AS VERSION 1
CHARACTERS 20

REPORTED-AS VERSION 1
PICTURE 'X(20)'

REPORT OF ITEM EMPLOYEE-TELEPHONE

EDITION 5 ENCODED BY MASTER AT 16.59.37 ON 13 DEC 1979
STATUS CONV
PROTECTION: NONE

ALIAS
LOW-LEVEL EMPTELNO

CATALOGUED AS
EMPLOYEE
DESCRIPTION

DESCRIPTION
EMPLOYEE TELEPHONE NUMBER INCLUDING CODE

THIS MEMBER IS DIRECTLY REFERRED TO ONCE
THIS MEMBER CONTAINS 0 DIRECT REFERENCES

ITEM EMPLOYEE-TELEPHONE

ENTERED-AS VERSION 1
NUMERIC-CHARACTER 10

HELD-AS VERSION 1
NUMERIC-CHARACTER 10

REPORTED-AS VERSION 1
PICTURE '9(3)8(2)9(3)89(4)'

X200

00101 GLOSSARY MEMBER PIU02MEMP GIVING REFERENCES.

In addition to using GLOSSARY for common clauses of a member, the keyword REFERENCES enables a downwards relationship trace to be generated, shown here for the employee master file, PIU02MEMP.

GLOSSARY OF MEMBERS

PIU02MEMP
FILEFILE
GROUP
ITEMPIU02MEMP REFERS TO
EMPLOYEE-MASTER-RECORD
EMPLOYEE-CODEGROUP
ITEM
GROUP
ITEM
ITEM
GROUP
GROUP
ITEM
ITEM
ITEM
ITEM
MODULEEMPLOYEE-MASTER-RECORD REFERS TO
EMPLOYEE-CODE
EMPLOYEE-IDENTIFICATION
EMPLOYEE-DEPARTMENT
EMPLOYEE-SALARY
EDUCATION
EXPERIENCE
TAX-CODE
SOCIAL-SECURITY-CODE
EMPLOYEE-CODE
EMPLOYEE-DEPARTMENT
PIU02

ITEM

EMPLOYEE-CODE REFERS TO NO MEMBERS

GROUP
ITEM
ITEM
ITEM
ITEMEMPLOYEE-IDENTIFICATION REFERS TO
EMPLOYEE-NAME
EMPLOYEE-STREET
EMPLOYEE-TOWN
EMPLOYEE-TELEPHONE

ITEM

EMPLOYEE-DEPARTMENT REFERS TO NO MEMBERS

ITEM

EMPLOYEE-SALARY REFERS TO NO MEMBERS

GROUP
ITEM
ITEMEDUCATION REFERS TO
COLLEGE-NAME
QUALIFICATIONSGROUP
ITEM
ITEM
ITEMEXPERIENCE REFERS TO
EMPLOYING-COMPANY
EXPERIENCE-CODE
EXPERIENCE-YRS

ITEM

TAX-CODE REFERS TO NO MEMBERS

ITEM

SOCIAL-SECURITY-CODE REFERS TO NO MEMBERS

ITEM

EMPLOYEE-NAME REFERS TO NO MEMBERS

ITEM

EMPLOYEE-STREET REFERS TO NO MEMBERS

ITEM

EMPLOYEE-TOWN REFERS TO NO MEMBERS

ITEM

EMPLOYEE-TELEPHONE REFERS TO NO MEMBERS

ITEM

COLLEGE-NAME REFERS TO NO MEMBERS

ITEM

QUALIFICATIONS REFERS TO NO MEMBERS

ITEM

EMPLOYING-COMPANY REFERS TO NO MEMBERS

ITEM

EXPERIENCE-CODE REFERS TO NO MEMBERS

ITEM
ITEMEXPERIENCE-YRS REFERS TO
EMPLOYEE-DEPARTMENTGLOSSARY CONTAINS 1 FILE
1 MEMBER PROCESSED

X200

00102 LIST DUMMIES.

MEMBER NAME	TYPE	USAGE CONDITION	AC	ALT	REM	OWNER
PM5	ITEM	1 *	DUM	YES	YES	YES

LIST CONTAINS

- 1 ITEM
- 1 DUMMY
- 1 MEMBER IN TOTAL

00103 WHAT USES PM5 DIRECTLY.

ITEM	PM5 IS USED BY
MODULE	PII01

00104 REPORT PII01.

REPORT OF MODULE PII01

EDITION 6 ENCODED BY MASTER AT 16.31.25 ON 18 JAN 1982
 STATUS CONV
 PROTECTION: NONE

ALIAS
 SETUP-UPDATE-PARAMETERS

CATALOGUED AS
 BATCH
 UTILITY
 ASSEMBLER
 WEEKLY

DESCRIPTION
 THIS MODULE SETS UPDATE PARAMETERS

NOTE
 DATES DEVELOPED
 MARCH 1979

INSTRUCTIONS - RECOVERY
 THIS IS A STANDARD UTILITY DEVELOPED BY THE
 TECHNICAL SUPPORT PROGRAMMER. CONTACT HIM
 FOR FURTHER ACTION

PROCESS PARAMETERS
 PM1 BINARY HALF WORD SELECTS UPDATE MODE
 PM2 BINARY HALF WORD SELECTS LOG FORMAT
 PM3 BINARY HALF WORD PARAMETER OFFSET
 PM4 CHARACTER 1 BYTE RETURN CODE FLAG
 PM5 CHARACTER 4 BYTES RESERVED

FREQUENCY WEEKLY

ACCESS-AUTHORITY PETER LEWIS

THIS MEMBER IS DIRECTLY REFERRED TO ONCE
 THIS MEMBER CONTAINS 5 DIRECT REFERENCES

MODULE PII01

AUTHOR
 PETER LEWIS (ANALYST), ANDREW STEVENS (PROGRAMMER)

PARAMETERS	
ITEM	PM1
ITEM	PM2
ITEM	PM3
ITEM	PM4
ITEM	PM5

INPUTS NO DATA

OUTPUTS NO DATA

UPDATES NO DATA

CALLS NO MEMBERS

CONTAINS NO MEMBERS

When a member definition is encoded by DATAMANAGER, if a reference is made to a non-existent member, then DATAMANAGER automatically creates a dummy data entries record for that member so that references to the dummy can be correctly established and maintained.

The report of PII01 in this example shows a reference to PM5, and in fact, it was the encoding of PII01 which created the dummy.

If/when a member definition is encoded for PM5, then DATAMANAGER automatically transfers references to the new data entries record and the dummy PM5 vanishes. This makes it possible to progressively implement a structure in the dictionary before all of its components are defined.

A dummy can only exist if it has at least one referring member (thus, for example, if PII01 were removed then PM5 would vanish).

COMMANDS DEMONSTRATED	DESCRIPTION
STATUS "CONV". AUTHORITY "PROG". GLOSSARY PROGRAMS, MODULES GIVING ALIAS, DESCRIPTION. DOES PIU01 USE UPDATE-CONTROL-REPORT. DOES PIU01 USE EMPLOYEE-REPORT. WHICH PROGRAMS UPDATES PIU02MEMP. WHICH PROGRAMS INPUTS PIV01INVAL. WHICH PROGRAMS PASSES PM1. REPORT PIU01. BULK PRINT ITEMS FROM "PM1" TO "PM5". LIST CATALOGS. WHAT FORMS "BATCH". WHAT FORMS "BATCH", "WEEKLY". WHICH PROGRAMS FORM "BATCH" AND OUTPUTS UPDATE-CONTROL-REPORT. KEEP WHAT FORMS "BATCH", "WEEKLY". ALSO KEEP WHAT FORMS "BATCH", "MONTHLY". GLOSSARY KEPT-DATA GIVING ALIAS, NOTE, COMMENT. LIST ALIASES. SHOW ALIAS-TYPES. WHOSE ALIAS IS "TRANSREC". WHAT IS "TRANSREC". GLOSSARY ITEMS GIVING LOW-LEVEL ALIASES.	DATAMANAGER EXAMPLE DICTIONARY - BASIC INTERROGATION/DOCUMENTATION A further demonstration of documentation and interrogation of the conventional file system.

00107 STATUS "CONV".
DM00096I NON-FROZEN STATUS CONV RECOGNISED

00108 AUTHORITY "PROG".
DM01060I AUTHORITY RECOGNISED

00109 GLOSSARY PROGRAMS, MODULES GIVING ALIAS, DESCRIPTION.

This glossary of programs and modules gives a cross-reference between member names and full-name aliases, and shows the one-line description.

GLOSSARY OF SELECTED MEMBERS

PII01
MODULE
ALIAS
1 SETUP-UPDATE-PARAMETERS
DESCRIPTION
THIS MODULE SETS UPDATE PARAMETERS

PIP01
PROGRAM
ALIAS
1 PRINT-EMPLOYEE-REPORT
DESCRIPTION
THIS PROGRAM PRINTS EMPLOYEE MASTER FILE

PIS01
PROGRAM
ALIAS
1 SORT-EMPLOYEE-TRANSACTIONS
DESCRIPTION
THIS PROGRAM SORTS EMPLOYEE TRANSACTIONS IN EMPLOYEE CODE SEQUENCE

PIU01
PROGRAM
ALIAS
1 UPDATE-EMPLOYEE-MASTER-FILE
DESCRIPTION
THIS PROGRAM UPDATES EMPLOYEE MASTER FILE

PIU02
MODULE
ALIAS
1 ACCESS-EMPLOYEE-MASTER-FILE
DESCRIPTION
THIS MODULE ACCESSES EMPLOYEE MASTER FILE

PIV01
PROGRAM
ALIAS
1 VALIDATE-EMPLOYEE-TRANSACTIONS
DESCRIPTION
THIS PROGRAM VALIDATES EMPLOYEE TRANSACTIONS WHICH ARE ENTERED VIA V.D.U.

P2P01
PROGRAM
ALIAS
1 PRINT-EMPLOYEE-HISTORY-REPORT
DESCRIPTION
THIS PROGRAM PRINTS EMPLOYEE HISTORY REPORT

P2U01
PROGRAM
ALIAS
1 UPDATE-EMPLOYEE-HISTORY
DESCRIPTION

X210

00115 REPORT P1U01.

The reader may care to compare this report of program P1U01 with that of the called module P1I01 shown in demonstration X200.

REPORT OF PROGRAM P1U01

EDITION 10 ENCODED BY MASTER AT 16.30.51 ON 18 JAN 1982
STATUS CONV
PROTECTION: NONE

ALIAS
UPDATE-EMPLOYEE-MASTER-FILE

CATALOGUED AS
BATCH
UPDATE
COBOL
WEEKLY

DESCRIPTION
THIS PROGRAM UPDATES EMPLOYEE MASTER FILE

NOTE
DATES DEVELOPED
MARCH 1979

DATE LAST AMENDED
28 AUGUST 1979

LAST AMENDMENT
ERROR CORRECTED IN UPDATE CONTROL REPORT

INSTRUCTIONS - RECOVERY
RECOVER THE FILE P1U02MEMP USING THE LATEST
SECURITY TAPE AND RERUN THE PROGRAM

PROGRAMMING EFFORT
2 MAN-DAYS FOR FLOW-CHARTING
3 MAN-DAYS FOR CODING
2 MAN-DAYS FOR TEST DATA PREPARATION
6 MAN-DAYS FOR COMPILATION AND PROGRAM
TESTING

FREQUENCY WEEKLY BATCH

ACCESS-AUTHORITY MARY MORRIS

THIS MEMBER IS DIRECTLY REFERRED TO ONCE
THIS MEMBER CONTAINS 9 DIRECT REFERENCES

PROGRAM P1U01

AUTHOR
PETER LEWIS (ANALYST), RON STEVENSON (PROGRAMMER)

PARAMETERS NO DATA

INPUTS
FILE P1S01TSORT

OUTPUTS
FILE UPDATE-CONTROL-REPORT

UPDATES
FILE P1U02MEMP

CALLS
MODULE P1I01
PASSING ITEM PM1
ITEM PM2
ITEM PM3
ITEM PM4

CONTAINS
MODULE P1U02

X210

00118 BULK PRINT ITEMS FROM "PM1" TO "PM5".

The keyword BULK may be used in conjunction with a PRINT command to produce source record prints of more than one member, in this case for the process parameters PM1 to PM5. Note that PM5 is not printed as it exists only as a dummy in the dictionary.

00100 PRINT OF PM1
00200 ITEM
07000 DEFAULTED-AS BINARY 1 CONTENTS RANGE 0 TO 4
09000 ALIAS LOW-LEVEL 'UPOMDE'
09100 DESCRIPTION
10000 'PII01 UPDATE MODE SELECT'
10100 NOTE
10200 'SET PARAMETER VALUES:'
10300 ' 1 GET'
10400 ' 2 UPDATE'
10500 ' 3 ADD'
 ' 4 DELETE'
END OF PRINT

00100 PRINT OF PM2
00200 ITEM
07000 DEFAULTED-AS BINARY 1 CONTENTS RANGE 0 TO 3
09000 ALIAS LOW-LEVEL 'UPLOGFMT'
09100 DESCRIPTION
10000 'PII01 LOG FORMAT SELECT'
10100 NOTE
10200 'SET PARAMETER VALUES:'
10300 ' 1 REPORT SUMMARY'
10400 ' 2 CHANGE REPORT'
 ' 3 ALL DETAILS'
END OF PRINT

00100 PRINT OF PM3
00200 ITEM
07000 DEFAULTED-AS BINARY 4
09000 ALIAS LOW-LEVEL 'PRMOFST'
09100 DESCRIPTION
10000 'PARAMATER OFFSET IN INITIALISATION TABLE'
10100 NOTE
 'VALUE RETURNED BY PII01'
END OF PRINT

00100 PRINT OF PM4
00200 ITEM
07000 DEFAULTED-AS CHARACTER 1
09000 ALIAS LOW-LEVEL 'INITERR'
09100 DESCRIPTION
10000 'PII01 RETURN CODE FLAG'
10100 NOTE
 'ERROR DISPLAY CHARACTER RETURNED BY PII01'
END OF PRINT

4 MEMBERS PROCESSED BY BULK PRINT

X210

00117 LIST CATALOGS.

LIST OF CATALOGUES MEMBER NAME	TYPE	USAGE	CONDITION	AC	ALT	REM	OWNER
ASSEMBLER	CATALOGUE	1					
BATCH	CATALOGUE	7					
COBOL	CATALOGUE	5					
CODE	CATALOGUE	6					
CONTROL	CATALOGUE	1					
CONTROL-TOTAL	CATALOGUE	5					
DAILY	CATALOGUE	1					
DATE	CATALOGUE	2					
DESCRIPTION	CATALOGUE	8					
DISC	CATALOGUE	3					
EMPLOYEE	CATALOGUE	20					
INPUT FORM	CATALOGUE	1					
MASTER	CATALOGUE	1					
MONTHLY	CATALOGUE	3					
NUMERIC	CATALOGUE	5					
ONLINE	CATALOGUE	1					
OUTPUT REPORT	CATALOGUE	3					
PACKAGE	CATALOGUE	1					
PERSONNEL	CATALOGUE	2					
PRINT	CATALOGUE	2					
SALARY	CATALOGUE	5					
SORT	CATALOGUE	1					
TAPE	CATALOGUE	1					
TRANSACTIONS	CATALOGUE	2					
UPDATE	CATALOGUE	3					
UTILITY	CATALOGUE	1					
VALIDATION	CATALOGUE	1					
WEEKLY	CATALOGUE	7					
WORK	CATALOGUE	1					

LIST CONTAINS 29 CATALOGUES
0 MEMBERS IN TOTAL

00118 WHAT FORMS "BATCH".

THE FOLLOWING SELECTED MEMBERS SATISFY THE GIVEN CRITERIA

MODULE	P1I01
PROGRAM	P1P01
PROGRAM	P1S01
PROGRAM	P1U01
MODULE	P1U02
PROGRAM	P2P01
PROGRAM	P2U01

7 MEMBERS IN TOTAL

00119 WHAT FORMS "BATCH", "WEEKLY".

THE FOLLOWING SELECTED MEMBERS SATISFY THE GIVEN CRITERIA

MODULE	P1I01
PROGRAM	P1P01
PROGRAM	P1S01
PROGRAM	P1U01
MODULE	P1U02

5 MEMBERS IN TOTAL

00120 WHICH PROGRAMS FORM "BATCH" AND OUTPUTS
00121 UPDATE-CONTROL-REPORT.

THE FOLLOWING PROGRAMS SATISFY THE GIVEN CRITERIA

PROGRAM	P1U01
---------	-------

1 MEMBER IN TOTAL

Catalogue keywords provide a means of interrogating the dictionary independent of hierarchical structure.

To do this sensibly, a convention needs to be adopted. Of the many different conventions that could be used under DATAMANAGER, that used for the example dictionary is shown in Figure 2.4 in Chapter 2.

Interrogation via catalogue keywords may be simple:

... or may be compounded with interrogation via relationships:

X210

00122 KEEP WHAT FORMS "BATCH", "WEEKLY".
DM01541I 5 ENTRIES ADDED TO KEPT-DATA LIST

00123 ALSO KEEP WHAT FORMS "BATCH", "MONTHLY".
DM01541I 2 ENTRIES ADDED TO KEPT-DATA LIST

00124 GLOSSARY KEPT-DATA GIVING ALIAS, NOTE, COMMENT.

... or may be used in association
with KEEP and ALSO KEEP commands to
build up a kept-data list for
subsequent processing.

GLOSSARY OF SELECTED MEMBERS

PII01
MODULE
ALIAS
1 SETUP-UPDATE-PARAMETERS
NOTE
DATES DEVELOPED
MARCH 1979

INSTRUCTIONS - RECOVERY
THIS IS A STANDARD UTILITY DEVELOPED BY THE
TECHNICAL SUPPORT PROGRAMMER. CONTACT HIM
FOR FURTHER ACTION

PROCESS PARAMETERS
PM1 BINARY HALF WORD SELECTS UPDATE MODE

PM2 BINARY HALF WORD SELECTS LOG FORMAT

PM3 BINARY HALF WORD PARAMETER OFFSET

PM4 CHARACTER 1 BYTE RETURN CODE FLAG

PM5 CHARACTER 4 BYTES RESERVED

PIP01
PROGRAM
ALIAS
1 PRINT-EMPLOYEE-REPORT
NOTE
DATES DEVELOPED
APRIL 1979

INSTRUCTIONS - RECOVERY
RE-RUN THE PROGRAM

PROGRAMMING EFFORT
3 MAN-DAYS FOR FLOW-CHARTING, CODING AND
TEST DATA PREPARATION
3 MAN-DAYS FOR COMPILATION AND PROGRAM
TESTING

COMMENT
ALWAYS INCLUDE A LINE-UP ROUTINE IN A PROGRAM
WHICH PRODUCES REPORT(S) ON PRE-PRINTED
STATIONERY

PIS01
PROGRAM
ALIAS
1 SORT-EMPLOYEE-TRANSACTIONS
NOTE
DATES DEVELOPED
MARCH 1979

INSTRUCTIONS - RECOVERY
NO FILE TO BE RECOVERED

PIU01
PROGRAM
ALIAS
1 UPDATE-EMPLOYEE-MASTER-FILE
NOTE
DATES DEVELOPED
MARCH 1979

DATE LAST AMENDED
28 AUGUST 1979

LAST AMENDMENT
ERROR CORRECTED IN UPDATE CONTROL REPORT

INSTRUCTIONS - RECOVERY
RECOVER THE FILE PIU02MEMP USING THE LATEST
SECURITY TAPE AND RERUN THE PROGRAM

PROGRAMMING EFFORT
2 MAN-DAYS FOR FLOW-CHARTING
3 MAN-DAYS FOR CODING
2 MAN-DAYS FOR TEST DATA PREPARATION
6 MAN-DAYS FOR COMPILATION AND PROGRAM
TESTING

PIU02
MODULE
ALIAS

X210

1 ACCESS-EMPLOYEE-MASTER-FILE

NOTE

DATES DEVELOPED
APRIL 1979

PROGRAMMING EFFORT
2 MAN-DAYS

COMMENT

IF A RECORD IS UPDATED AND DELETED IN
A RUN, ALWAYS PRINT A WARNING MESSAGE

P2P01

PROGRAM

ALIAS

1 PRINT-EMPLOYEE-HISTORY-REPORT

NOTE

INSTRUCTIONS - RECOVERY
RE-RUN THE PROGRAM

PROGRAMMING EFFORT
4 MAN-DAYS

P2U01

PROGRAM

ALIAS

1 UPDATE-EMPLOYEE-HISTORY

NOTE

DATES DEVELOPED
MAY 1979

INSTRUCTIONS - CONTROL
ENTER NEW TAPE NUMBER IN THE TAPE LOG FILE

INSTRUCTIONS - RECOVERY
RE-RUN THE PROGRAM

PROGRAMMING EFFORT
5 MAN-DAYS

GLOSSARY CONTAINS 2 MODULES
 5 PROGRAMS
 7 MEMBERS PROCESSED

X210

00125 LIST ALIASES.

LIST OF ALIASES MEMBER NAME	TYPE	USAGE	CONDITION	AC	ALT	REM	OWNER
ACCESS-EMPLOYEE-MASTER-FILE	ALIAS	1					
EMPCODE	ALIAS	1					
EMPCOL	ALIAS	1					
EMPDAT	ALIAS	1					
EMPDPT	ALIAS	1					
EMPEDU	ALIAS	1					
EMPEMP	ALIAS	1					
EMPEXP	ALIAS	1					
EMPHISDT	ALIAS	1					
EMPIDEN	ALIAS	1					
EMPLEAVE	ALIAS	1					
EMPLOYEE-HISTORY-MASTER-FILE	ALIAS	1					
EMPLOYEE-HISTORY-SYSTEM	ALIAS	1					
EMPLOYEE-MASTER-FILE	ALIAS	1					
EMPLOYEE-RECORDS-SYSTEM	ALIAS	1					
EMPASRC	ALIAS	1					
EMPNAME	ALIAS	1					
EMPNAUPD	ALIAS	1					
EMPNUBUPD	ALIAS	1					
EMPNEW	ALIAS	1					
EMPOST	ALIAS	1					
EMPQUA	ALIAS	1					
EMPREPOT	ALIAS	1					
EMFSAL	ALIAS	1					
EMPSAUPD	ALIAS	1					
EMPSBUPD	ALIAS	1					
EMSSC	ALIAS	1					
EMPSTR	ALIAS	1					
EMPTAX	ALIAS	1					
EMPTLNO	ALIAS	1					
EMPTOWN	ALIAS	1					
EMPTRADA	ALIAS	1					
EMPTTRANS	ALIAS	1					
EMPTTRAN	ALIAS	1					
EMPYRS	ALIAS	1					
INITERR	ALIAS	1					
PAGENUMB	ALIAS	1					
PRINT-EMPLOYEE-HISTORY-REPORT	ALIAS	1					
PRINT-EMPLOYEE-REPORT	ALIAS	1					
PRMOFST	ALIAS	1					
PII1	ALIAS	1					
PIR1	ALIAS	1					
PIR2	ALIAS	1					
P2R1	ALIAS	1					
REPHEAD	ALIAS	1					
REPTIT	ALIAS	1					
SETUP-UPDATE-PARAMETERS	ALIAS	1					
SORT-EMPLOYEE-TRANSACTIONS	ALIAS	1					
SORTED-EMPLOYEE-TRANSACTION-FILE	ALIAS	1					
STDATE	ALIAS	1					
TRANSREC	ALIAS	1					
UPCONDTA	ALIAS	1					
UPDATE-EMPLOYEE-HISTORY	ALIAS	1					
UPDATE-EMPLOYEE-MASTER-FILE	ALIAS	1					
UPDMD	ALIAS	1					
UPLOGFMT	ALIAS	1					
VALIDATE-EMPLOYEE-TRANSACTIONS	ALIAS	1					
VALIDATED-EMPLOYEE-TRANSACTIONS-FILE	ALIAS	1					

LIST CONTAINS 58 ALIASES
0 MEMBERS IN TOTAL

00126 SHOW ALIAS-TYPES.

GENERAL ALIASES 9
SPECIFIC ALIASES
10 LOW-LEVEL
11 ADABAS
12 IMS
13 TOTAL
14 PL/I
15 ASSEMBLER
16 COBOL

END OF ALIAS LIST

The alias facility of DATAMANAGER caters for multiple alternative names to be stored with a member definition. For example an item may have many names depending on the application or department within an organisation.

Each organisation will have its own convention requirements - the conventions used in the example dictionary are shown in Figure 2.4 in Chapter 2.

The USAGE column in the output from the LIST ALIASES command shows the number of occurrences of each alias - aliases, unlike member names, need not be unique.

The SHOW command enables a user to obtain a list of the alias types defined in the data dictionary. The list will contain default alias types supplied by MSP and/or those defined by the Controller.

X210

00127 WHOSE ALIAS IS "TRANSREC".
TRANSREC IS
THE LOW-LEVEL ALIAS OF GROUP TRANSACTION-RECORD
00128 WHAT IS "TRANSREC".

TRANSREC IS
THE LOW-LEVEL ALIAS OF GROUP TRANSACTION-RECORD

00129 GLOSSARY ITEMS GIVING LOW-LEVEL ALIASES.

GLOSSARY OF ITEMS

COLLEGE-NAME

ITEM
ALIAS
LOW-LEVEL EMPCOL

EMPLOYEE-AFTER-UPDATE

ITEM
ALIAS
LOW-LEVEL EMPNAUPD

EMPLOYEE-BEFORE-UPDATE

ITEM
ALIAS
LOW-LEVEL EMPNBUPD

EMPLOYEE-CODE

ITEM
ALIAS
LOW-LEVEL EMPCODE

EMPLOYEE-DEPARTMENT

ITEM
ALIAS
LOW-LEVEL EMPDEPT

EMPLOYEE-LEAVERS

ITEM
ALIAS
LOW-LEVEL EMPLEAVE

EMPLOYEE-NAME

ITEM
ALIAS
LOW-LEVEL EMPNAME

EMPLOYEE-NEWCOMERS

ITEM
ALIAS
LOW-LEVEL EMPNEW

EMPLOYEE-SALARY

ITEM
ALIAS
LOW-LEVEL EMPSAL

EMPLOYEE-STREET

ITEM
ALIAS
LOW-LEVEL EMPSTR

EMPLOYEE-TELEPHONE

ITEM
ALIAS
LOW-LEVEL EMPTELNO

EMPLOYEE-TOWN

ITEM
ALIAS
LOW-LEVEL EMPTOWN

EMPLOYING-COMPANY

ITEM
ALIAS
LOW-LEVEL EMPEMP

EXPERIENCE-CODE

ITEM
ALIAS
LOW-LEVEL EMPPOST

EXPERIENCE-YRS

ITEM
ALIAS
LOW-LEVEL EMPYRS

PM1

ITEM
ALIAS
LOW-LEVEL UPDMDE

PM2

Interrogation may also be performed
via aliases.

Where more than one convention is used
for aliases (the example dictionary uses
aliases for full-names, coded-names, and
for low-level program names depending
on member type), then more specific
output is available using the GLOSSARY
command, shown here for low-level item
aliases.

X210 ITEM
 ALIAS
 LOW-LEVEL UPLOGFMT

 PM3
 ITEM
 ALIAS
 LOW-LEVEL PRMOFST

 PM4
 ITEM
 ALIAS
 LOW-LEVEL INITERR

 PM5
 ITEM

 QUALIFICATIONS
 ITEM
 ALIAS
 LOW-LEVEL EMPQUA

 REPORT-PAGE
 ITEM
 ALIAS
 LOW-LEVEL PAGENUMB

 REPORT-TITLE
 ITEM
 ALIAS
 LOW-LEVEL REPTIT

 SALARY-AFTER-UPDATE
 ITEM
 ALIAS
 LOW-LEVEL EMPSAUPD

 SALARY-BEFORE-UPDATE
 ITEM
 ALIAS
 LOW-LEVEL EMPSBUPD

 SOCIAL-SECURITY-CODE
 ITEM
 ALIAS
 LOW-LEVEL EMPSSC

 STANDARD-DATE
 ITEM
 ALIAS
 LOW-LEVEL STDATE

 TAX-CODE
 ITEM
 ALIAS
 LOW-LEVEL EMP TAX

 TRANSACTION-CODE
 ITEM
 ALIAS
 LOW-LEVEL EMPTRANS

 TRANSACTION-DATA
 ITEM
 ALIAS
 LOW-LEVEL EMPTRADA

 TRANSACTION-DATE
 ITEM
 ALIAS
 LOW-LEVEL EMPDATE

 TRANSACTION-TOTAL
 ITEM
 ALIAS
 LOW-LEVEL EMP TTRAN

 GLOSSARY CONTAINS 32 ITEMS

```
COMMANDS DEMONSTRATED

STATUS "CONV".
AUTHORITY "ANALYST".
INSERT P2P02 NO-PRINT.
MODULE
PARAMETER TRANSACTION-RECORD
OUTPUTS EMPLOYEE-LIST
ALIAS "PRINT-EMPLOYEE-LIST"
CATALOG "COBOL", "MONTHLY", "SPECIAL"
NOTE "THIS ROUTINE CALCULATES EMPLOYEE"
"STATISTICS FOR PERSONNEL STUDIES"
"AND PRINTS EMPLOYEE-LIST."

ALTER P2P02 NO-PRINT.
CHANGE ALL "EMPLOYEE-" TO "EMP-"

ENCODE P2P02.
REPORT P2P02.
PRINT P2U01.
MODIFY P2U01.
150 CALLS P2P02
160 AT "EMHS0023" PASSING TRANSACTION-RECORD

WHAT FORMS "SPECIAL", "COBOL".
WHICH MEMBER PASSES TRANSACTION-RECORD DIRECTLY.
KEEP WHICH ITEMS CONSTITUTE TRANSACTION-RECORD.
BULK PRINT KEPT-DATA ALPHABETICALLY.
PERFORM "MODIFY *."
      ,"2000 USER-EXIT P2P02"
      ."
      .
    KEPT-DATA NO-TERMINATOR.
REPORT TRANSACTION-CODE.
PERFORM "MODIFY *."
      ,"DELETE 2000"
      ."
      .
    KEPT-DATA NO-TERMINATOR.
MODIFY P2U01.
DELETE 150 TO 160

REMOVE P2P02.
```

DMO0096I	00132	STATUS "CONV". NON-FROZEN STATUS CONV RECOGNISED
DMO1060I	00133	AUTHORITY "ANALYST". AUTHORITY RECOGNISED
	00134	INSERT P2P02 NO-PRINT.
	00135	MODULE
	00136	PARAMETER TRANSACTION-RECORD
	00137	OUTPUTS EMPLOYEE-LIST
	00138	ALIAS "PRINT-EMPLOYEE-LIST"
	00139	CATALOG "COBOL", "MONTHLY", "SPECIAL"
	00140	NOTE "THIS ROUTINE CALCULATES EMPLOYEE"
	00141	"STATISTICS FOR PERSONNEL STUDIES"
	00142	"AND PRINTS EMPLOYEE-LIST."
	00143	
DMO1131I		P2P02 SUCCESSFULLY INSERTED
	00144	ALTER P2P02 NO-PRINT.
DMO1157I	00145	CHANGE ALL "EMPLOYEE-" TO "EMP-" 3 CHANGES MADE
DMO1180I	00146	ALTERATION HAS CREATED NEW SOURCE RECORD
	00147	ENCODE P2P02.
DMO1296I		ENCODING OF P2P02
	00100	MODULE
	00200	PARAMETER TRANSACTION-RECORD
	00300	OUTPUTS EMP-LIST
	00400	ALIAS "PRINT-EMP-LIST"
	00500	CATALOG "COBOL", "MONTHLY", "SPECIAL"
	00600	NOTE "THIS ROUTINE CALCULATES EMPLOYEE"
	00700	"STATISTICS FOR PERSONNEL STUDIES"
	00800	"AND PRINTS EMP-LIST."
DMO1286I		ITEM EMP-LIST CREATED AS DUMMY
DMO1280I		P2P02 SUCCESSFULLY ENCODED

Here we use an INSERT command to enter the definition of a new module - P2P02 into the dictionary. The keyword NO-PRINT is used to suppress the source print which DATAMANAGER would otherwise produce. The INSERT command is followed by the member definition up to the "." terminator. The INSERT command enters the definition only in source form.

The ALTER command provides good editing facilities, shown here to change all occurrences of a stated text string.

Having created the source record for P2P02, it is necessary to use an ENCODE command for DATAMANAGER to check the source syntax and create a data entries record for the member. An ADD command could alternatively have been used to insert and encode in one step, and a MODIFY command to alter and encode in one step.

Note the automatic creation of EMP-LIST as a dummy member.

X230

00148 REPORT P2P02.

REPORT OF MODULE P2P02

*Having encoded P2P02 we can use any
DATAMANAGER documentation or
interrogation command on it, a REPORT
command for example.*

EDITION 1 ENCODED BY ANALYST AT 13.27.56 ON 10 AUG 1982
STATUS CONV
PROTECTION: NONE

ALIAS
PRINT-EMP-LIST

CATALOGUED AS
COBOL
MONTHLY
SPECIAL

NOTE
THIS ROUTINE CALCULATES EMPLOYEE
STATISTICS FOR PERSONNEL STUDIES
AND PRINTS EMP-LIST.

THIS MEMBER IS DIRECTLY REFERRED TO 0 TIMES
THIS MEMBER CONTAINS 2 DIRECT REFERENCES

MODULE P2P02

PARAMETERS
GROUP

TRANSACTION-RECORD

INPUTS NO DATA

OUTPUTS
ITEM

EMP-LIST

UPDATES NO DATA

CALLS NO MEMBERS

CONTAINS NO MEMBERS

X230

00149 PRINT P2U01.

```

00100 PRINT OF P2U01
00200 PROGRAM
00300 INPUTS P1S01TSORT,P2U01TEMP
00400 OUTPUTS P2U01TEMP
01000 AUTHOR 'JOHN COOPER (ANALYST), CATHY JOHNSON (PROGRAMMER)'
07000 ALIAS 'UPDATE-EMPLOYEE-HISTORY'
08000 CATALOGUE 'BATCH', 'UPDATE', 'COBOL', 'MONTHLY'
09000 DESCRIPTION
09100 'THIS PROGRAM UPDATES EMPLOYEE HISTORY MASTER FILE'
10000 NOTE
10100 'DATES DEVELOPED'
10200 ' MAY 1979'
10300 '
10400 'INSTRUCTIONS - CONTROL'
10500 ' ENTER NEW TAPE NUMBER IN THE TAPE LOG FILE'
10600 '
10700 'INSTRUCTIONS - RECOVERY'
10800 ' RE-RUN THE PROGRAM'
10900 '
11000 'PROGRAMMING EFFORT'
11100 ' 5 MAN-DAYS'
20000 ACCESS-AUTHORITY 'JOHN COOPER'
23000 FREQUENCY MONTHLY
END OF PRINT

```

```

00150 MODIFY P2U01.
00151 150 CALLS P2P02
00152 180 AT "EMHS0023" PASSING TRANSACTION-RECORD
00153 .

```

```

DM01180I ALTERATION HAS CREATED NEW SOURCE RECORD
DM01296I ENCODING OF P2U01
00100 PROGRAM
00150 CALLS P2P02
00160 AT "EMHS0023" PASSING TRANSACTION-RECORD
00200 INPUTS P1S01TSORT,P2U01TEMP
00300 OUTPUTS P2U01TEMP
01000 AUTHOR 'JOHN COOPER (ANALYST), CATHY JOHNSON (PROGRAMMER)'
07000 ALIAS 'UPDATE-EMPLOYEE-HISTORY'
08000 CATALOGUE 'BATCH', 'UPDATE', 'COBOL', 'MONTHLY'
09000 DESCRIPTION
09100 'THIS PROGRAM UPDATES EMPLOYEE HISTORY MASTER FILE'
10000 NOTE
10100 'DATES DEVELOPED'
10200 ' MAY 1979'
10300 '
10400 'INSTRUCTIONS - CONTROL'
10500 ' ENTER NEW TAPE NUMBER IN THE TAPE LOG FILE'
10600 '
10700 'INSTRUCTIONS - RECOVERY'
10800 ' RE-RUN THE PROGRAM'
10900 '
11000 'PROGRAMMING EFFORT'
11100 ' 5 MAN-DAYS'
20000 ACCESS-AUTHORITY 'JOHN COOPER'
23000 FREQUENCY MONTHLY
DM01280I P2U01 SUCCESSFULLY ENCODED

```

00154 WHAT FORMS "SPECIAL", "COBOL".

THE FOLLOWING SELECTED MEMBERS SATISFY THE GIVEN CRITERIA

MODULE P2P02

1 MEMBER IN TOTAL

00155 WHICH MEMBER PASSES TRANSACTION-RECORD DIRECTLY.

THE FOLLOWING SELECTED MEMBERS SATISFY THE GIVEN CRITERIA

PROGRAM P2U01

1 MEMBER IN TOTAL

We are now going to change the definition of an existing program, P2U01 to call the new module. So let us obtain a print of the member, as editing is going to be based on the line numbers automatically generated by DATAMANAGER when a member definition is entered into the dictionary. Unless the user states otherwise, lines are numbered in increments of 100 to allow for future changes.

We use a MODIFY command to edit the source record of P2U01 and then to encode the new definition. Note that each line to be inserted is prefixed with a line number to determine its position.

We can now verify that our changes have been incorporated into the dictionary, both for the new module and the changed program.

X230

```

00156 KEEP WHICH ITEMS CONSTITUTE TRANSACTION-RECORD.
DM01541I 5 ENTRIES ADDED TO KEPT-DATA LIST

00157 BULK PRINT KEPT-DATA ALPHABETICALLY.

PRINT OF EMPLOYEE-CODE
00100 ITEM
00200 ENTERED-AS ALPHANUMERIC 4
00300 HELD-AS NUMERIC 4 CONTENTS RANGE 1000 TO 8000
00400 REPORTED-AS PICTURE '9999'
07000 ALIAS LOW-LEVEL 'EMPCODE'
08000 CATALOG 'EMPLOYEE', 'CODE'
09000 DESCRIPTION
09100 'STANDARD EMPLOYEE CODE'
10000 NOTE
10100 'INPUT FORM XYZ'
10200 ' EMPLOYEE-TRANSACTIONS-FORM'
END OF PRINT

PRINT OF STANDARD-DATE
00100 ITEM
00200 ENTERED-AS CHARACTER 8 CONTENTS FORMAT 'DD/MM/YY'
00300 HELD-AS NUMERIC-CHARACTER 6
00400 REPORTED-AS PICTURE '99X99X99' CONTENTS FORMAT 'DD/MM/YY'
00500 USAGE DATE
07000 ALIAS LOW-LEVEL 'STDATE'
08000 CATALOG 'EMPLOYEE', 'DATE'
09000 DESCRIPTION
09100 'PERSONNEL STANDARD DATE FORMATS'
END OF PRINT

PRINT OF TRANSACTION-CODE
00100 ITEM
00200 ENTERED-AS CHARACTER 2
00300 HELD-AS NUMERIC 2 CONTENTS RANGE 10 TO 90
00400 REPORTED-AS PICTURE '99'
07000 ALIAS LOW-LEVEL 'EMPTRANS'
08000 CATALOG 'EMPLOYEE', 'CODE'
09000 DESCRIPTION
09100 'EMPLOYEE TRANSACTION CODE'
END OF PRINT

PRINT OF TRANSACTION-DATA
00100 ITEM
00200 ENTERED-AS CHARACTER 40
00300 HELD-AS CHARACTER 40
00400 REPORTED-AS PICTURE 'X(40)'
07000 ALIAS LOW-LEVEL 'EMPTADA'
08000 CATALOG 'EMPLOYEE', 'DESCRIPTION', 'NUMERIC'
09000 DESCRIPTION
09100 'TRANSACTION DATA INPUT VIA V.D.U.'
10000 NOTE
10100 'INPUT FORM'
10200 ' EMPLOYEE-TRANSACTIONS-FORM'
10300 ' '
10400 'ACCURACY'
10500 ' PERSONNEL DEPARTMENT IS RESPONSIBLE'
10600 ' FOR ENSURING THAT DATA IS COMPLETELY'
10700 ' CORRECT'
END OF PRINT

PRINT OF TRANSACTION-DATE
00100 ITEM
00200 ENTERED-AS NAME STANDARD-DATE
00300 HELD-AS NAME STANDARD-DATE
00400 REPORTED-AS NAME STANDARD-DATE
07000 ALIAS LOW-LEVEL 'EMPDATE'
08000 CATALOG 'EMPLOYEE', 'DATE'
09000 DESCRIPTION
09100 'EMPLOYEE TRANSACTION DATE'
10000 NOTE
10100 'ACCURACY'
10200 ' DATE IS TAKEN FROM OPERATING SYSTEM'
10300 ' SUPERVISOR AT THE TIME OF INPUT'
END OF PRINT

```

5 MEMBERS PROCESSED BY BULK PRINT

We are now going to modify all the items contained in TRANSACTION-RECORD to contain a USER-EXIT clause to our new module P2P02. Firstly we obtain a print of all the items concerned and decide to insert the new line as line number 2000 in each member.

X230

```

00158 PERFORM "MODIFY *."
00159 "2000 USER-EXIT P2P02"
00160 " "
00161 KEPT-DATA NO-TERMINATOR.
DM01551I 15 GENERATED INPUT LINES

DM01180I ALTERATION HAS CREATED NEW SOURCE RECORD
DM01296I ENCODING OF TRANSACTION-CODE
00100 ITEM
00200 ENTERED-AS CHARACTER 2
00300 HELD-AS NUMERIC 2 CONTENTS RANGE 10 TO 90
00400 REPORTED-AS PICTURE '99'
02000 USER-EXIT P2P02
07000 ALIAS LOW-LEVEL 'EMPTRANS'
08000 CATALOG 'EMPLOYEE','CODE'
09000 DESCRIPTION
09100 'EMPLOYEE TRANSACTION CODE'
DM01280I TRANSACTION-CODE SUCCESSFULLY ENCODED

DM01180I ALTERATION HAS CREATED NEW SOURCE RECORD
DM01296I ENCODING OF EMPLOYEE-CODE
00100 ITEM
00200 ENTERED-AS ALPHANUMERIC 4
00300 HELD-AS NUMERIC 4 CONTENTS RANGE 1000 TO 8000
00400 REPORTED-AS PICTURE '9999'
02000 USER-EXIT P2P02
07000 ALIAS LOW-LEVEL 'EMPCODE'
08000 CATALOG 'EMPLOYEE','CODE'
09000 DESCRIPTION
09100 'STANDARD EMPLOYEE CODE'
10000 NOTE
10100 'INPUT FORM XYZ'
10200 'EMPLOYEE-TRANSACTIONS-FORM'
DM01280I EMPLOYEE-CODE SUCCESSFULLY ENCODED

DM01180I ALTERATION HAS CREATED NEW SOURCE RECORD
DM01296I ENCODING OF TRANSACTION-DATA
00100 ITEM
00200 ENTERED-AS CHARACTER 40
00300 HELD-AS CHARACTER 40
00400 REPORTED-AS PICTURE "X(40)"
02000 USER-EXIT P2P02
07000 ALIAS LOW-LEVEL 'EMPTRADA'
08000 CATALOG 'EMPLOYEE','DESCRIPTION','NUMERIC'
09000 DESCRIPTION
09100 'TRANSACTION DATA INPUT VIA V.D.U.'
10000 NOTE
10100 'INPUT FORM'
10200 'EMPLOYEE-TRANSACTIONS-FORM'
10300 ' '
10400 'ACCURACY'
10500 'PERSONNEL DEPARTMENT IS RESPONSIBLE'
10600 'FOR ENSURING THAT DATA IS COMPLETELY'
10700 'CORRECT'
DM01280I TRANSACTION-DATA SUCCESSFULLY ENCODED

DM01180I ALTERATION HAS CREATED NEW SOURCE RECORD
DM01296I ENCODING OF TRANSACTION-DATE
00100 ITEM
00200 ENTERED-AS NAME STANDARD-DATE
00300 HELD-AS NAME STANDARD-DATE
00400 REPORTED-AS NAME STANDARD-DATE
02000 USER-EXIT P2P02
07000 ALIAS LOW-LEVEL 'EMPDATE'
08000 CATALOG 'EMPLOYEE','DATE'
09000 DESCRIPTION
09100 'EMPLOYEE TRANSACTION DATE'
10000 NOTE
10100 'ACCURACY'
10200 'DATE IS TAKEN FROM OPERATING SYSTEM'
10300 'SUPERVISOR AT THE TIME OF INPUT'
DM01280I TRANSACTION-DATE SUCCESSFULLY ENCODED

DM01180I ALTERATION HAS CREATED NEW SOURCE RECORD
DM01296I ENCODING OF STANDARD-DATE
00100 ITEM
00200 ENTERED-AS CHARACTER 8 CONTENTS FORMAT 'DD/MM/YY'
00300 HELD-AS NUMERIC-CHARACTER 6
00400 REPORTED-AS PICTURE '99X99X99' CONTENTS FORMAT 'DD/MM/YY'
00500 USAGE DATE
02000 USER-EXIT P2P02
07000 ALIAS LOW-LEVEL 'STDATE'
08000 CATALOG 'EMPLOYEE','DATE'
09000 DESCRIPTION
09100 'PERSONNEL STANDARD DATE FORMATS'
DM01280I STANDARD-DATE SUCCESSFULLY ENCODED

```

Then we use a combination of PERFORM and MODIFY on the members in the kept-data list generated earlier, to action the change to all members.

X230

00177 REPORT TRANSACTION-CODE.

*Having made the changes we now produce
a report on one of the changed items*

REPORT OF ITEM TRANSACTION-CODE

EDITION 45 ENCODED BY ANALYST AT 13.28.24 ON 10 AUG 1982
STATUS CONV
PROTECTION: NONE

ALIAS
LOW-LEVEL EMPTRANS

CATALOGUED AS
EMPLOYEE
CODE

DESCRIPTION
EMPLOYEE TRANSACTION CODE

THIS MEMBER IS DIRECTLY REFERRED TO 4 TIMES
THIS MEMBER CONTAINS 1 DIRECT REFERENCE

ITEM TRANSACTION-CODE

ENTERED-AS VERSION 1
CHARACTERS 2

HELD-AS VERSION 1
NUMERIC-CHARACTER 2
CONTENTS
RANGE 10 TO 90

REPORTED-AS VERSION 1
USER-EXIT P2P02
PICTURE '9(2)'

X230

```

00178 PERFORM "MODIFY ."
00179 "DELETE 2000"
00180 " ."
00181 KEPT-DATA NO-TERMINATOR.
DMO1551I 15 GENERATED INPUT LINES

DMO1187I 1 LINES DELETED
DMO1180I ALTERATION HAS CREATED NEW SOURCE RECORD
DMO1296I ENCODING OF TRANSACTION-CODE
00100 ITEM
00200 ENTERED-AS CHARACTER 2
00300 HELD-AS NUMERIC 2 CONTENTS RANGE 10 TO 90
00400 REPORTED-AS PICTURE '99'
07000 ALIAS LOW-LEVEL 'EMPTRANS'
08000 CATALOG 'EMPLOYEE', 'CODE'
09000 DESCRIPTION
09100 'EMPLOYEE TRANSACTION CODE'
DMO1280I TRANSACTION-CODE SUCCESSFULLY ENCODED

DMO1187I 1 LINES DELETED
DMO1180I ALTERATION HAS CREATED NEW SOURCE RECORD
DMO1296I ENCODING OF EMPLOYEE-CODE
00100 ITEM
00200 ENTERED-AS ALPHANUMERIC 4
00300 HELD-AS NUMERIC 4 CONTENTS RANGE 1000 TO 8000
00400 REPORTED-AS PICTURE '9999'
07000 ALIAS LOW-LEVEL 'EMPCODE'
08000 CATALOG 'EMPLOYEE', 'CODE'
09000 DESCRIPTION
09100 'STANDARD EMPLOYEE CODE'
10000 NOTE
10100 'INPUT FORM XYZ'
10200 'EMPLOYEE-TRANSACTIONS-FORM'
DMO1280I EMPLOYEE-CODE SUCCESSFULLY ENCODED

DMO1187I 1 LINES DELETED
DMO1180I ALTERATION HAS CREATED NEW SOURCE RECORD
DMO1296I ENCODING OF TRANSACTION-DATA
00100 ITEM
00200 ENTERED-AS CHARACTER 40
00300 HELD-AS CHARACTER 40
00400 REPORTED-AS PICTURE 'X(40)'
07000 ALIAS LOW-LEVEL 'EMPTRADA'
08000 CATALOG 'EMPLOYEE', 'DESCRIPTION', 'NUMERIC'
09000 DESCRIPTION
09100 'TRANSACTION DATA INPUT VIA V.D.U.'
10000 NOTE
10100 'INPUT FORM'
10200 'EMPLOYEE-TRANSACTIONS-FORM'
10300 ' '
10400 'ACCURACY'
10500 'PERSONNEL DEPARTMENT IS RESPONSIBLE'
10600 'FOR ENSURING THAT DATA IS COMPLETELY'
10700 'CORRECT'
DMO1280I TRANSACTION-DATA SUCCESSFULLY ENCODED

DMO1187I 1 LINES DELETED
DMO1180I ALTERATION HAS CREATED NEW SOURCE RECORD
DMO1296I ENCODING OF TRANSACTION-DATE
00100 ITEM
00200 ENTERED-AS NAME STANDARD-DATE
00300 HELD-AS NAME STANDARD-DATE
00400 REPORTED-AS NAME STANDARD-DATE
07000 ALIAS LOW-LEVEL 'EMPDAT'
08000 CATALOG 'EMPLOYEE', 'DATE'
09000 DESCRIPTION
09100 'EMPLOYEE TRANSACTION DATE'
10000 NOTE
10100 'ACCURACY'
10200 'DATE IS TAKEN FROM OPERATING SYSTEM'
10300 'SUPERVISOR AT THE TIME OF INPUT'
DMO1280I TRANSACTION-DATE SUCCESSFULLY ENCODED

DMO1187I 1 LINES DELETED
DMO1180I ALTERATION HAS CREATED NEW SOURCE RECORD
DMO1296I ENCODING OF STANDARD-DATE
00100 ITEM
00200 ENTERED-AS CHARACTER 8 CONTENTS FORMAT 'DD/MM/YY'
00300 HELD-AS NUMERIC-CHARACTER 6
00400 REPORTED-AS PICTURE '99X99X99' CONTENTS FORMAT 'DD/MM/YY'
00500 USAGE DATE
07000 ALIAS LOW-LEVEL 'STDATE'
08000 CATALOG 'EMPLOYEE', 'DATE'
09000 DESCRIPTION
09100 'PERSONNEL STANDARD DATE FORMATS'
DMO1280I STANDARD-DATE SUCCESSFULLY ENCODED

```

... and then use the same kept-data list in another PERFORM/MODIFY combination to undo the changes made for the purpose of this demonstration

X230

```
00197 MODIFY P2U01.
00198 DELETE 150 TO 180
DM01187I 2 LINES DELETED
00199
DM01180I ALTERATION HAS CREATED NEW SOURCE RECORD
DM01296I ENCODING OF P2U01
00100 PROGRAM
00200 INPUTS P1S01TSORT,P2U01TEMP
00300 OUTPUTS P2U01TEMP
01000 AUTHOR 'JOHN COOPER (ANALYST), CATHY JOHNSON (PROGRAMMER)'
07000 ALIAS 'UPDATE-EMPLOYEE-HISTORY'
08000 CATALOGUE 'BATCH', 'UPDATE', 'COBOL', 'MONTHLY'
09000 DESCRIPTION
09100 'THIS PROGRAM UPDATES EMPLOYEE HISTORY MASTER FILE'
10000 NOTE
10100 'DATES DEVELOPED'
10200 ' MAY 1979'
10300 '
10400 'INSTRUCTIONS - CONTROL'
10500 ' ENTER NEW TAPE NUMBER IN THE TAPE LOG FILE'
10600 '
10700 'INSTRUCTIONS - RECOVERY'
10800 ' RE-RUN THE PROGRAM'
10900 '
11000 'PROGRAMMING EFFORT'
11100 ' 5 MAN-DAYS'
20000 ACCESS-AUTHORITY 'JOHN COOPER'
23000 FREQUENCY MONTHLY
DM01280I P2U01 SUCCESSFULLY ENCODED
00200 REMOVE P2P02.
DM01287I ITEM EMP-LIST PURGED FROM DICTIONARY - NO LONGER USED IN THIS STATUS
DM01251I P2P02 REMOVED FROM DICTIONARY
```

... and change P2U01 back to its former definition

... and finally remove P2P02 to leave the dictionary in an unchanged state.

COMMANDS DEMONSTRATED	DESCRIPTION
STATUS "CONV". AUTHORITY "ANALYST". PRODUCE RECORD-LAYOUTS FROM PIU02MEMP PRINT GIVING DESCRIPTIONS. PRODUCE COBOL FROM PIU02MEMP NOGEN PRINT USING HELD-AS GIVING DESCRIPTIONS, INITIAL-VALUES. PRODUCE PL/1 FROM EMPLOYEE-MASTER-RECORD PRINT NOGEN USING HELD-AS REPLACING "EMPLOYEE" WITH "EMP" GIVING DESCRIPTIONS. PRODUCE BAL FROM EMPLOYEE-MASTER-RECORD NOGEN PRINT USING HELD-AS ALIAS LOW-LEVEL GIVING DESCRIPTIONS.	DATAMANAGER EXAMPLE DICTIONARY - SOURCE LANGUAGE GENERATION To show use of the Source Language Generation facility to generate record layouts and source language descriptions from the dictionary in COBOL, PL/1 and Assembler.

00203 STATUS "CONV".
DM00096I NON-FROZEN STATUS CONV RECOGNISED

00204 AUTHORITY "ANALYST".
DM01060I AUTHORITY RECOGNISED

X250

00205 PRODUCE RECORD-LAYOUTS FROM PIU02MEMP
00206 PRINT GIVING DESCRIPTIONS.

Produce record layouts from the master
file PIU02MEMP. Record layouts are
generated dynamically by DATAMANAGER.

DESCRIPTION OF EMPLOYEE-MASTER-RECORD						
*DEC *OFFSET	*HEX *OFFSET	LEVEL & NAME	*LENGTH	TYPE	ALIGN	REMARKS
0	0	1 * EMPLOYEE-MASTER-RECORD	205	GROUP	*	EMPLOYEE MASTER FILE RECORD
0	0	2 * EMPLOYEE-CODE	4	NUM	*	4 DIGITS STANDARD EMPLOYEE CODE
4	4	2 * EMPLOYEE-IDENTIFICATION	100	GROUP	*	NAME, ADDRESS AND TELEPHONE NUMBER OF AN EMPLOYEE
4	4	3 * EMPLOYEE-NAME	30	CHAR	*	EMPLOYEE SURNAME, FIRST NAME AND MIDDLE NAME
34	22	3 * EMPLOYEE-STREET	40	CHAR	*	EMPLOYEE STREET NAME INCLUDING ANY APARTMENT NUMBER
74	4A	3 * EMPLOYEE-TOWN	20	CHAR	*	EMPLOYEE HOME TOWN NAME AND POST CODE
94	5E	3 * EMPLOYEE-TELEPHONE	10	NUM	*	10 DIGITS EMPLOYEE TELEPHONE NUMBER INCLUDING CODE
104	68	2 * EMPLOYEE-DEPARTMENT	3	NUM	*	3 DIGITS EMPLOYEE DEPARTMENT CODE
107	68	2 * EMPLOYEE-SALARY	5	NUM	*	5 DIGITS YEARLY SALARY. INCLUDES GEOGRAPHICAL ALLOWANCES
112	70	2 * EDUCATION	40	GROUP	*	EDUCATION RECEIVED BY EMPLOYEE INCLUDING PROFESSIONAL TRAINING
112	70	3 * COLLEGE-NAME	30	CHAR	*	NAME OF COLLEGE/FACULTY
142	8E	3 * QUALIFICATIONS	10	CHAR	*	QUALIFICATION OBTAINED AND DATE OF CERTIFICATE (SHOWN AS MM/YY)
152	98	2 * EXPERIENCE	34	GROUP	*	EXPERIENCE GAINED (INCLUDING EXPERIENCE GAINED WITHIN THIS ORGANISATION)
152	98	3 * EMPLOYING-COMPANY	30	CHAR	*	NAME OF OUTSIDE COMPANY OR INTERNAL DEPARTMENT OF THIS ORGANISATION
182	86	3 * EXPERIENCE-CODE	2	NUM	*	2 DIGITS EXPERIENCE CODE TAKEN FROM STANDARD CODING BOOK
184	B8	3 * EXPERIENCE-YRS	2	NUM	*	2 DIGITS NUMBER OF YEARS EXPERIENCE
186	BA	2 * TAX-CODE	4	NUM	*	4 DIGITS EMPLOYEE TAX CODE SENT BY TAX OFFICE
190	BE	2 * SOCIAL-SECURITY-CODE	15	ALNUM	*	CURRENT EMPLOYEE SOCIAL SECURITY CODE

X250

00207 PRODUCE COBOL FROM PIU02MEMP NOGEN PRINT
00208 USING HELD-AS GIVING DESCRIPTIONS, INITIAL-VALUES.

```
FD PIU02MEMP
BLOCK CONTAINS 205 CHARACTERS
LABEL RECORDS ARE STANDARD
DATA RECORD IS EMPLOYEE-MASTER-RECORD.
* THIS FILE STORES PERSONAL DETAILS OF EMPLOYEE
* 01 EMPLOYEE-MASTER-RECORD.
*   EMPLOYEE MASTER FILE RECORD
*   02 EMPLOYEE-CODE PIC 9(4).
*   STANDARD EMPLOYEE CODE
*   02 EMPLOYEE-IDENTIFICATION.
*   NAME, ADDRESS AND TELEPHONE NUMBER OF AN EMPLOYEE
*   04 EMPLOYEE-NAME PIC X(30).
*   EMPLOYEE SURNAME, FIRST NAME AND MIDDLE NAME
*   04 EMPLOYEE-STREET PIC X(40).
*   EMPLOYEE STREET NAME INCLUDING ANY APARTMENT NUMBER
*   04 EMPLOYEE-TOWN PIC X(20).
*   EMPLOYEE HOME TOWN NAME AND POST CODE
*   04 EMPLOYEE-TELEPHONE PIC 9(10).
*   EMPLOYEE TELEPHONE NUMBER INCLUDING CODE
*   02 EMPLOYEE-DEPARTMENT PIC 999.
*   EMPLOYEE DEPARTMENT CODE
*   02 EMPLOYEE-SALARY PIC 9(5).
*   YEARLY SALARY. INCLUDES GEOGRAPHICAL ALLOWANCES
*   02 EDUCATION.
*   EDUCATION RECEIVED BY EMPLOYEE INCLUDING PROFESSIONAL TRAINING
*   04 COLLEGE-NAME PIC X(30).
*   NAME OF COLLEGE/FACULTY
*   04 QUALIFICATIONS PIC X(10).
*   QUALIFICATION OBTAINED AND DATE OF CERTIFICATE (SHOWN AS MM/YY)
*   02 EXPERIENCE.
*   EXPERIENCE GAINED (INCLUDING EXPERIENCE GAINED WITHIN THIS ORGANISATION)
*   04 EMPLOYING-COMPANY PIC X(30).
*   NAME OF OUTSIDE COMPANY OR INTERNAL DEPARTMENT OF THIS ORGANISATION
*   04 EXPERIENCE-CODE PIC 99.
*   EXPERIENCE CODE TAKEN FROM STANDARD CODING BOOK
*   04 EXPERIENCE-YRS PIC 99.
*   NUMBER OF YEARS EXPERIENCE
*   02 TAX-CODE PIC 9(4).
*   EMPLOYEE TAX CODE SENT BY TAX OFFICE
*   02 SOCIAL-SECURITY-CODE PIC X(15).
*   CURRENT EMPLOYEE SOCIAL SECURITY CODE
```

DM02217I

PIU02MEMP SUCCESSFULLY GENERATED

Let us now generate COBOL file and data descriptions from the same file member. NOGEN and PRINT keywords are specified as we require only a source listing at an on-line terminal. The USING HELD-AS clause specifies that the HELD-AS form of member definitions is to be used. The GIVING clause specifies that DESCRIPTION clauses are to be generated as source language comments, and that initial values are to be generated as VALUE clauses.

The format of the generated output shown results from standard DATAMANAGER installation defaults - output formats are tailorable via macro keywords.

X250

00209 PRODUCE PL/I FROM EMPLOYEE-MASTER-RECORD PRINT
00210 NOGEN USING HELD-AS REPLACING "EMPLOYEE" WITH "EMP"
00211 GIVING DESCRIPTIONS.

```
DCL
1 EMP_MASTER_RECORD          /*EMPLOYEE MASTER FILE RECOR*/
                              /*D                                */
3 EMP_CODE                   /*STANDARD EMPLOYEE CODE */
                              /*NAME, ADDRESS AND TELEPHON*/
3 EMP_IDENTIFICATION         /*E NUMBER OF AN EMPLOYEE */
                              /*CHAR (30)                  */
5 EMP_NAME                   /*EMPLOYEE SURNAME, FIRST NA*/
                              /*ME AND MIDDLE NAME */
5 EMP_STREET                 /*EMPLOYEE STREET NAME INCLU*/
                              /*DING ANY APARTMENT NUMBER */
5 EMP_TOWN                   /*EMPLOYEE HOME TOWN NAME AN*/
                              /*D POST CODE */
5 EMP_TELEPHONE              /*(10)9*/
                              /*EMPLOYEE TELEPHONE NUMBER */
                              /*INCLUDING CODE */
3 EMP_DEPARTMENT             /*999*/
                              /*EMPLOYEE DEPARTMENT CODE */
3 EMP_SALARY                 /*(5)9*/
                              /*YEARLY SALARY. INCLUDES GE*/
                              /*OGRAPHICAL ALLOWANCES */
3 EDUCATION                  /*EDUCATION RECEIVED BY EMPL*/
                              /*OYEE INCLUDING PROFESSIONA*/
                              /*L TRAINING */
5 COLLEGE_NAME              /*CHAR (30)                  */
                              /*NAME OF COLLEGE/FACULTY */
5 QUALIFICATIONS             /*CHAR (10)                  */
                              /*QUALIFICATION OBTAINED AND*/
                              /*DATE OF CERTIFICATE (SHOW*/
                              /*N AS MM/YY) */
3 EXPERIENCE                 /*EXPERIENCE GAINED (INCLUDI*/
                              /*NG EXPERIENCE GAINED WITHI*/
                              /*N THIS ORGANISATION) */
5 EMPLOYING_COMPANY          /*CHAR (30)                  */
                              /*NAME OF OUTSIDE COMPANY OR*/
                              /*INTERNAL DEPARTMENT OF TH*/
5 EXPERIENCE_CODE            /*IS ORGANISATION */
                              /*99*/
                              /*EXPERIENCE CODE TAKEN FROM*/
5 EXPERIENCE_YRS            /*STANDARD CODING BOOK */
                              /*99*/
                              /*NUMBER OF YEARS EXPERIENCE*/
3 TAX_CODE                   /*(4)9*/
                              /*EMPLOYEE TAX CODE SENT BY */
                              /*TAX OFFICE */
3 SOCIAL_SECURITY_CODE       /*CHAR (15)                  */
                              /*CURRENT EMPLOYEE SOCIAL SE*/
                              /*CURITY CODE */
```

DM02217I EMPLOYEE-MASTER-RECORD SUCCESSFULLY GENERATED

We now produce PL/I data descriptions from EMPLOYEE-MASTER-RECORD, and, as for COBOL we specify PRINT, NOGEN and USING the HELD-AS form. Source language comments are generated from DESCRIPTION clauses. In addition we use a REPLACING clause to generate "EMP-" instead of "EMPLOYEE-".

As with source language generation of COBOL, output formats are tailorable.

X250

00212 PRODUCE BAL FROM EMPLOYEE-MASTER-RECORD NOGEN PRINT
00213 USING HELD-AS ALIAS LOW-LEVEL GIVING DESCRIPTIONS.

EMPASRC	DS	OCL205	EMPLOYEE MASTER FILE RECORD
EMPCODE	DS	CL4	STANDARD EMPLOYEE CODE
EMPIDEN	DS	OCL100	NAME, ADDRESS AND TELEPHONE NUMBER OF AN EMPLOYEE
*			
EMPNAME	DS	CL30	EMPLOYEE SURNAME, FIRST NAME AND MIDDLE NAME
*			
EMPSTR	DS	CL40	EMPLOYEE STREET NAME INCLUDING ANY APARTMENT NUMBER
*			
EMPTOWN	DS	CL20	EMPLOYEE HOME TOWN NAME AND POST CODE
*			
EMPTELNO	DS	CL10	EMPLOYEE TELEPHONE NUMBER INCLUDING CODE
*			
			END OF GROUP EMPIDEN
EMPDEPT	DS	CL3	EMPLOYEE DEPARTMENT CODE
EMPSAL	DS	CL5	YEARLY SALARY. INCLUDES GEOGRAPHICAL ALLOWANCES
*			
EMPEDU	DS	OCL40	EDUCATION RECEIVED BY EMPLOYEE INCLUDING PROFESSIONAL TRAINING
*			
EMPCOL	DS	CL30	NAME OF COLLEGE/FACULTY
EMPQUA	DS	CL10	QUALIFICATION OBTAINED AND DATE OF CERTIFICATE (SHOWN AS MM/YY)
*			
*			
			END OF GROUP EMPEDU
EMPEXP	DS	OCL34	EXPERIENCE GAINED (INCLUDING EXPERIENCE GAINED WITHIN THIS ORGANISATION)
*			
EMPEMP	DS	CL30	NAME OF OUTSIDE COMPANY OR INTERNAL DEPARTMENT OF THIS ORGANISATION
*			
EMPOST	DS	CL2	EXPERIENCE CODE TAKEN FROM STANDARD CODING BOOK
*			
EMPYRS	DS	CL2	NUMBER OF YEARS EXPERIENCE
*			
			END OF GROUP EMPEXP
EMPTAX	DS	CL4	EMPLOYEE TAX CODE SENT BY TAX OFFICE
*			
EMPSSC	DS	CL15	CURRENT EMPLOYEE SOCIAL SECURITY CODE
*			
			END OF GROUP EMPASRC

DMO2217I

EMPLOYEE-MASTER-RECORD SUCCESSFULLY GENERATED

The generation of Assembler descriptions are now shown from EMPLOYEE-MASTER-RECORD. Again we specify PRINT NOGEN and USING the HELD-AS form. Source language comments are generated from DESCRIPTION clauses. In addition, LOW-LEVEL aliases are generated in place of member names.

Assembler source language generation output formats are tailorable.

COMMANDS DEMONSTRATED	DESCRIPTION
STATUS "CONV". AUTHORITY "END-USER". LIST ONLY "EMPLOYEE-". REPORT EMPLOYEE-CODE. MODIFY EMPLOYEE-DATA. WHAT IS EMPLOYEE-CODE. WHO OWNS EMPLOYEE-CODE. AUTHORITY "AUDITOR". LIST ITEMS. PRINT TAX-CODE. MODIFY EMPLOYEE-DATA. AUTHORITY "PROG". LIST ITEMS. MODIFY TAX-CODE. AUTHORITY "ANALYST". LIST ITEMS. REMOVE TAX-CODE. PROTECT EMPLOYEE-DATA ACC 100. AUTHORITY "P-MNGR". LIST.	To show the effects of the security protocol set up for the DATAMANAGER example dictionary for the different types of user defined. Note the differences in the output of the LIST commands as entered by the different users in addition to DATAMANAGERs error messages if an attempt is made to by-pass the rules established by the Controller.

00216 STATUS "CONV".
DM00096I NON-FROZEN STATUS CONV RECOGNISED

X300

00217 AUTHORITY "END-USER".
 DMO1060I AUTHORITY RECOGNISED
 00218 LIST ONLY "EMPLOYEE-".

END-USER has "read-only" access to
 unprotected members in the dictionary.
 A LIST command entered by END-USER only
 gives details of unprotected members.
 END-USER has ...

LIST OF MEMBERS	MEMBER NAME	TYPE	USAGE	CONDITION	AC	ALT	REM	OWNER
	EMPLOYEE-AFTER-UPDATE	ITEM	1	SCE	ENC	YES		
	EMPLOYEE-BEFORE-UPDATE	ITEM	2	SCE	ENC	YES		
	EMPLOYEE-CODE							PERSONNEL
	EMPLOYEE-DATA	GROUP	1	SCE	ENC	YES		
	EMPLOYEE-DEPARTMENT							PERSONNEL
	EMPLOYEE-HISTORY-REPORT	FILE	2	SCE	ENC	YES		
	EMPLOYEE-IDENTIFICATION	GROUP	1	SCE	ENC	YES		
	EMPLOYEE-LEAVERS	ITEM	1	SCE	ENC	YES		
	EMPLOYEE-MASTER-RECORD	GROUP	1	SCE	ENC	YES		
	EMPLOYEE-NAME							PERSONNEL
	EMPLOYEE-NEWCOMERS	ITEM	2	SCE	ENC	YES		
	EMPLOYEE-REPORT	FILE	3	SCE	ENC	YES		
	EMPLOYEE-REPORT-DATA	GROUP	1	SCE	ENC	YES		
	EMPLOYEE-REPORT-HEADER	GROUP	3	SCE	ENC	YES		
	EMPLOYEE-SALARY							PERSONNEL
	EMPLOYEE-STREET	ITEM	1	SCE	ENC	YES		
	EMPLOYEE-TELEPHONE	ITEM	1	SCE	ENC	YES		
	EMPLOYEE-TOWN	ITEM	1	SCE	ENC	YES		
	EMPLOYEE-TRANSACTIONS-FORM	GROUP	2	SCE	ENC	YES		
LIST CONTAINS	7 ITEMS							
	6 GROUPS							
	2 FILES							
	15 MEMBERS IN TOTAL							
	4 MEMBERS INACCESSIBLE TO THIS USER							

00219 REPORT EMPLOYEE-CODE.
 DMO0090E 00219/002 EMPLOYEE-CODE INSUFFICIENT AUTHORITY
 DMO1603E EMPLOYEE-CODE NOT REPORTED DUE TO PREVIOUS ERROR

no access rights to members owned by
 PERSONNEL, and...

00220 MODIFY EMPLOYEE-DATA.
 DMO0090S INSUFFICIENT AUTHORITY
 DMO0500E STATEMENT PROCESSING TERMINATED

no rights to change the dictionary.

00221 WHAT IS EMPLOYEE-CODE.

DATAMANAGER will not permit END-USER
 to find out the member type of a
 protected member, but will disclose
 the owner's identity.

EMPLOYEE-CODE IS
 AN INACCESSIBLE MEMBER

00222 WHO OWNS EMPLOYEE-CODE.

EMPLOYEE-CODE IS OWNED BY PERSONNEL

X300

00223 AUTHORITY "AUDITOR".
DM010601 AUTHORITY RECOGNISED

AUDITOR has "read-only" access to all
dictionary members - whether owned by
PERSONNEL or not, but ...

00224 LIST ITEMS.

LIST OF ITEMS
MEMBER NAME TYPE USAGE CONDITION AC ALT REM OWNER

COLLEGE-NAME	ITEM	1	SCE	ENC	YES	
EMPLOYEE-AFTER-UPDATE	ITEM	1	SCE	ENC	YES	
EMPLOYEE-BEFORE-UPDATE	ITEM	2	SCE	ENC	YES	
EMPLOYEE-CODE	ITEM	8	SCE	ENC	YES	PERSONNEL
EMPLOYEE-DEPARTMENT	ITEM	4	SCE	ENC	YES	PERSONNEL
EMPLOYEE-LEAVERS	ITEM	1	SCE	ENC	YES	
EMPLOYEE-NAME	ITEM	2	SCE	ENC	YES	PERSONNEL
EMPLOYEE-NEWCOMERS	ITEM	2	SCE	ENC	YES	
EMPLOYEE-SALARY	ITEM	2	SCE	ENC	YES	PERSONNEL
EMPLOYEE-STREET	ITEM	1	SCE	ENC	YES	
EMPLOYEE-TELEPHONE	ITEM	1	SCE	ENC	YES	
EMPLOYEE-TOWN	ITEM	1	SCE	ENC	YES	
EMPLOYING-COMPANY	ITEM	1	SCE	ENC	YES	
EXPERIENCE-CODE	ITEM	1	SCE	ENC	YES	
EXPERIENCE-YRS	ITEM	1	SCE	ENC	YES	
PM1	ITEM	2	SCE	ENC	YES	
PM2	ITEM	2	SCE	ENC	YES	
PM3	ITEM	2	SCE	ENC	YES	
PM4	ITEM	2	SCE	ENC	YES	
PM5	ITEM	1		DUM	YES	
QUALIFICATIONS	ITEM	1	SCE	ENC	YES	
REPORT-PAGE	ITEM	1	SCE	ENC	YES	
REPORT-TITLE	ITEM	1	SCE	ENC	YES	
SALARY-AFTER-UPDATE	ITEM	1	SCE	ENC	YES	
SALARY-BEFORE-UPDATE	ITEM	2	SCE	ENC	YES	
SOCIAL-SECURITY-CODE	ITEM	2	SCE	ENC	YES	PERSONNEL
STANDARD-DATE	ITEM	4	SCE	ENC	YES	
TAX-CODE	ITEM	2	SCE	ENC	YES	PERSONNEL
TRANSACTION-CODE	ITEM	4	SCE	ENC	YES	
TRANSACTION-DATA	ITEM	2	SCE	ENC	YES	
TRANSACTION-DATE	ITEM	2	SCE	ENC	YES	
TRANSACTION-TOTAL	ITEM	1	SCE	ENC	YES	

LIST CONTAINS 32 ITEMS
1 DUMMY

00225 PRINT TAX-CODE.

PRINT OF TAX-CODE
ITEM
00100 HELD-AS NUMERIC 4 CONTENTS IS 538
00200 ELSE IS 670
00300 ELSE RANGE 1000 TO 6000
00400 ENTERED-AS NUMERIC-CHARACTER 4
00500 REPORTED-AS PICTURE "9999"
00600 ALIAS LOW-LEVEL 'EMPTAX'
07000 CATALOG 'SALARY', 'CODE'
08000 DESCRIPTION
09000 'EMPLOYEE TAX CODE SENT BY TAX OFFICE'
09100 NOTE
10000 'ACCURACY'
10100 ' TAX CODE IS ONE MONTH OUT OF DATE'
10200 END OF PRINT

00226 MODIFY EMPLOYEE-DATA.
DM00090S INSUFFICIENT AUTHORITY
DM00500E STATEMENT PROCESSING TERMINATED

no rights to change the dictionary.

00227

X300

00228 AUTHORITY "PROG".
DM010601 AUTHORITY RECOGNISED

00229 LIST ITEMS.

Programmer - PROG - has full access to
all dictionary members and may
manipulate all non-protected members
in the dictionary, but ...

LIST OF ITEMS
MEMBER NAME

TYPE

USAGE CONDITION AC ALT REM OWNER

COLLEGE-NAME	ITEM	1	SCE	ENC	YES	YES	YES	
EMPLOYEE-AFTER-UPDATE	ITEM	1	SCE	ENC	YES	YES	YES	
EMPLOYEE-BEFORE-UPDATE	ITEM	2	SCE	ENC	YES	YES	YES	
EMPLOYEE-CODE	ITEM	8	SCE	ENC	YES			PERSONNEL
EMPLOYEE-DEPARTMENT	ITEM	4	SCE	ENC	YES			PERSONNEL
EMPLOYEE-LEAVERS	ITEM	1	SCE	ENC	YES	YES	YES	
EMPLOYEE-NAME	ITEM	2	SCE	ENC	YES			PERSONNEL
EMPLOYEE-NEWCOMERS	ITEM	2	SCE	ENC	YES	YES	YES	
EMPLOYEE-SALARY	ITEM	2	SCE	ENC	YES			PERSONNEL
EMPLOYEE-STREET	ITEM	1	SCE	ENC	YES	YES	YES	
EMPLOYEE-TELEPHONE	ITEM	1	SCE	ENC	YES	YES	YES	
EMPLOYEE-TOWN	ITEM	1	SCE	ENC	YES	YES	YES	
EMPLOYING-COMPANY	ITEM	1	SCE	ENC	YES	YES	YES	
EXPERIENCE-CODE	ITEM	1	SCE	ENC	YES	YES	YES	
EXPERIENCE-YRS	ITEM	1	SCE	ENC	YES	YES	YES	
PM1	ITEM	2	SCE	ENC	YES	YES	YES	
PM2	ITEM	2	SCE	ENC	YES	YES	YES	
PM3	ITEM	2	SCE	ENC	YES	YES	YES	
PM4	ITEM	2	SCE	ENC	YES	YES	YES	
PM5	ITEM	1		DUM	YES	YES	YES	
QUALIFICATIONS	ITEM	1	SCE	ENC	YES	YES	YES	
REPORT-PAGE	ITEM	1	SCE	ENC	YES	YES	YES	
REPORT-TITLE	ITEM	1	SCE	ENC	YES	YES	YES	
SALARY-AFTER-UPDATE	ITEM	1	SCE	ENC	YES	YES	YES	
SALARY-BEFORE-UPDATE	ITEM	2	SCE	ENC	YES	YES	YES	
SOCIAL-SECURITY-CODE	ITEM	2	SCE	ENC	YES			PERSONNEL
STANDARD-DATE	ITEM	4	SCE	ENC	YES	YES	YES	
TAX-CODE	ITEM	2	SCE	ENC	YES			PERSONNEL
TRANSACTION-CODE	ITEM	4	SCE	ENC	YES	YES	YES	
TRANSACTION-DATA	ITEM	2	SCE	ENC	YES	YES	YES	
TRANSACTION-DATE	ITEM	2	SCE	ENC	YES	YES	YES	
TRANSACTION-TOTAL	ITEM	1	SCE	ENC	YES	YES	YES	

LIST CONTAINS 32 ITEMS
1 DUMMY

00230 MODIFY TAX-CODE.
DM00090E INSUFFICIENT AUTHORITY
DM00500W STATEMENT PROCESSING TERMINATED
00231

may not manipulate protected members.

X300

00232 AUTHORITY "ANALYST".
DM010601 AUTHORITY RECOGNISED

ANALYST has full access rights to the
dictionary, with two restrictions ...

00233 LIST ITEMS.

LIST OF ITEMS
MEMBER NAME

TYPE

USAGE CONDITION AC ALT REM OWNER

COLLEGE-NAME	ITEM	1	SCE	ENC	YES	YES	YES	
EMPLOYEE-AFTER-UPDATE	ITEM	1	SCE	ENC	YES	YES	YES	
EMPLOYEE-BEFORE-UPDATE	ITEM	2	SCE	ENC	YES	YES	YES	
EMPLOYEE-CODE	ITEM	8	SCE	ENC	YES	YES		PERSONNEL
EMPLOYEE-DEPARTMENT	ITEM	4	SCE	ENC	YES	YES		PERSONNEL
EMPLOYEE-LEAVERS	ITEM	1	SCE	ENC	YES	YES	YES	
EMPLOYEE-NAME	ITEM	2	SCE	ENC	YES	YES		PERSONNEL
EMPLOYEE-NEWCOMERS	ITEM	2	SCE	ENC	YES	YES	YES	
EMPLOYEE-SALARY	ITEM	2	SCE	ENC	YES	YES		PERSONNEL
EMPLOYEE-STREET	ITEM	1	SCE	ENC	YES	YES	YES	
EMPLOYEE-TELEPHONE	ITEM	1	SCE	ENC	YES	YES	YES	
EMPLOYEE-TOWN	ITEM	1	SCE	ENC	YES	YES	YES	
EMPLOYING-COMPANY	ITEM	1	SCE	ENC	YES	YES	YES	
EXPERIENCE-CODE	ITEM	1	SCE	ENC	YES	YES	YES	
EXPERIENCE-YRS	ITEM	1	SCE	ENC	YES	YES	YES	
PM1	ITEM	2	SCE	ENC	YES	YES	YES	
PM2	ITEM	2	SCE	ENC	YES	YES	YES	
PM3	ITEM	2	SCE	ENC	YES	YES	YES	
PM4	ITEM	2	SCE	ENC	YES	YES	YES	
PM5	ITEM	1	*	DUM	YES	YES	YES	
QUALIFICATIONS	ITEM	1	SCE	ENC	YES	YES	YES	
REPORT-PAGE	ITEM	1	SCE	ENC	YES	YES	YES	
REPORT-TITLE	ITEM	1	SCE	ENC	YES	YES	YES	
SALARY-AFTER-UPDATE	ITEM	1	SCE	ENC	YES	YES	YES	
SALARY-BEFORE-UPDATE	ITEM	2	SCE	ENC	YES	YES	YES	
SOCIAL-SECURITY-CODE	ITEM	2	SCE	ENC	YES	YES		PERSONNEL
STANDARD-DATE	ITEM	4	SCE	ENC	YES	YES	YES	
TAX-CODE	ITEM	2	SCE	ENC	YES	YES		PERSONNEL
TRANSACTION-CODE	ITEM	4	SCE	ENC	YES	YES	YES	
TRANSACTION-DATA	ITEM	2	SCE	ENC	YES	YES	YES	
TRANSACTION-DATE	ITEM	2	SCE	ENC	YES	YES	YES	
TRANSACTION-TOTAL	ITEM	1	SCE	ENC	YES	YES	YES	

LIST CONTAINS 32 ITEMS
1 DUMMY

00234 REMOVE TAX-CODE.
DM00090S TAX-CODE INSUFFICIENT AUTHORITY

no rights to remove members owned by
PERSONNEL (although may edit them)

00235 PROTECT EMPLOYEE-DATA ACC 100.
DM00090S INSUFFICIENT AUTHORITY

and no rights to protect members.

X300

00238 AUTHORITY "P-MNGR".
 DM010601 AUTHORITY RECOGNISED

The Personnel Manager - P-MNGR - has
 full access rights to the dictionary.

00237 LIST.

LIST OF MEMBERS
 MEMBER NAME

TYPE

USAGE CONDITION AC ALT REM OWNER

COLLEGE-NAME	ITEM	1	SCE	ENC	YES	
EDUCATION	GROUP	1	SCE	ENC	YES	
EMPLOYEE-AFTER-UPDATE	ITEM	1	SCE	ENC	YES	
EMPLOYEE-BEFORE-UPDATE	ITEM	2	SCE	ENC	YES	
EMPLOYEE-CODE	ITEM	8	SCE	ENC	YES	PERSONNEL
EMPLOYEE-DATA	GROUP	1	SCE	ENC	YES	
EMPLOYEE-DEPARTMENT	ITEM	4	SCE	ENC	YES	PERSONNEL
EMPLOYEE-HISTORY-REPORT	FILE	2	SCE	ENC	YES	
EMPLOYEE-IDENTIFICATION	GROUP	1	SCE	ENC	YES	
EMPLOYEE-LEAVERS	ITEM	1	SCE	ENC	YES	
EMPLOYEE-MASTER-RECORD	GROUP	1	SCE	ENC	YES	
EMPLOYEE-NAME	ITEM	2	SCE	ENC	YES	PERSONNEL
EMPLOYEE-NEWCOMERS	ITEM	2	SCE	ENC	YES	
EMPLOYEE-REPORT	FILE	3	SCE	ENC	YES	
EMPLOYEE-REPORT-DATA	GROUP	1	SCE	ENC	YES	
EMPLOYEE-REPORT-HEADER	GROUP	3	SCE	ENC	YES	
EMPLOYEE-SALARY	ITEM	2	SCE	ENC	YES	PERSONNEL
EMPLOYEE-STREET	ITEM	1	SCE	ENC	YES	
EMPLOYEE-TELEPHONE	ITEM	1	SCE	ENC	YES	
EMPLOYEE-TOWN	ITEM	1	SCE	ENC	YES	
EMPLOYEE-TRANSACTIONS-FORM	GROUP	2	SCE	ENC	YES	
EMPLOYING-COMPANY	ITEM	1	SCE	ENC	YES	
EXPERIENCE	GROUP	1	SCE	ENC	YES	
EXPERIENCE-CODE	ITEM	1	SCE	ENC	YES	
EXPERIENCE-YRS	ITEM	1	SCE	ENC	YES	
PM1	ITEM	2	SCE	ENC	YES	
PM2	ITEM	2	SCE	ENC	YES	
PM3	ITEM	2	SCE	ENC	YES	
PM4	ITEM	2	SCE	ENC	YES	
PM5	ITEM	1		DUM	YES	
P1-ERS	SYSTEM	0	SCE	ENC	YES	
P1-ERS-NEW-MEMBERS	COMMAND-STRM	1	SCE	ENC	YES	
P1I01	MODULE	1	SCE	ENC	YES	
P1P01	PROGRAM	1	SCE	ENC	YES	
P1S01	PROGRAM	1	SCE	ENC	YES	
P1S01TSORT	FILE	3	SCE	ENC	YES	
P1U01	PROGRAM	1	SCE	ENC	YES	
P1U02	MODULE	2	SCE	ENC	YES	
P1U02MEMP	FILE	5	SCE	ENC	YES	
P1V01	PROGRAM	1	SCE	ENC	YES	
P1V01WVAL	FILE	2	SCE	ENC	YES	
P2-EHS	SYSTEM	0	SCE	ENC	YES	
P2P01	PROGRAM	1	SCE	ENC	YES	
P2U01	PROGRAM	1	SCE	ENC	YES	
P2U01TEMP	FILE	3	SCE	ENC	YES	
QUALIFICATIONS	ITEM	1	SCE	ENC	YES	
REPORT-PAGE	ITEM	1	SCE	ENC	YES	
REPORT-TITLE	ITEM	1	SCE	ENC	YES	
SALARY-AFTER-UPDATE	ITEM	1	SCE	ENC	YES	
SALARY-BEFORE-UPDATE	ITEM	2	SCE	ENC	YES	
SOCIAL-SECURITY-CODE	ITEM	2	SCE	ENC	YES	PERSONNEL
STANDARD-DATE	ITEM	4	SCE	ENC	YES	
TAX-CODE	ITEM	2	SCE	ENC	YES	PERSONNEL
TRANSACTION-CODE	ITEM	4	SCE	ENC	YES	
TRANSACTION-DATA	ITEM	2	SCE	ENC	YES	
TRANSACTION-DATE	ITEM	2	SCE	ENC	YES	
TRANSACTION-RECORD	GROUP	4	SCE	ENC	YES	
TRANSACTION-TOTAL	ITEM	1	SCE	ENC	YES	
UPDATE-CONTROL-DATA	GROUP	1	SCE	ENC	YES	
UPDATE-CONTROL-REPORT	FILE	2	SCE	ENC	YES	

LIST CONTAINS 32 ITEMS
 10 GROUPS
 7 FILES
 2 MODULES
 6 PROGRAMS
 2 SYSTEMS
 1 COMMAND-STREAM
 1 DUMMY
 60 MEMBERS IN TOTAL

↑↑
 full rights
 not shown.

COMMANDS DEMONSTRATED

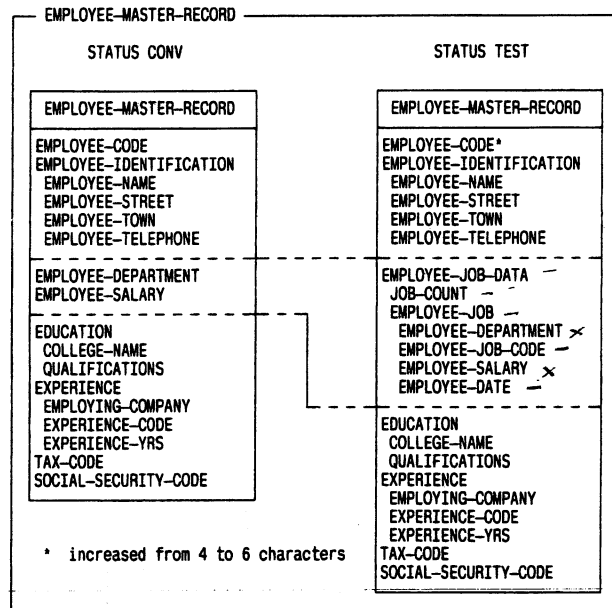
AUTHORITY "ANALYST".
 STATUS "TEST".
 KEEP AND LIST MEMBERS EMPLOYEE-JOB-DATA, JOB-COUNT,
 EMPLOYEE-JOB, EMPLOYEE-JOB-CODE, EMPLOYEE-DATE.
 BULK ENCODE KEPT-DATA.
 LIST NEW ITEMS.
 PRINT EMPLOYEE-MASTER-RECORD.
 ENCODE EMPLOYEE-MASTER-RECORD.
 PRINT EMPLOYEE-CODE.
 MODIFY EMPLOYEE-CODE.
 CHANGE ALL "4" TO "6"

WHAT CONSTITUTES EMPLOYEE-MASTER-RECORD.
 STATUS "CONV".
 WHAT CONSTITUTES EMPLOYEE-MASTER-RECORD.
 PRODUCE RECORD-LAYOUTS FROM EMPLOYEE-MASTER-RECORD
 PRINT.
 STATUS "TEST".
 PRODUCE RECORD-LAYOUTS FROM EMPLOYEE-MASTER-RECORD
 PRINT.
 PRODUCE COBOL FROM EMPLOYEE-MASTER-RECORD NOGEN
 PRINT USING HELD-AS GIVING CONDITION-NAMES.

DESCRIPTION

DATAMANAGER EXAMPLE DICTIONARY - STATUS DEMONSTRATION

To demonstrate some basic aspects of the DATAMANAGER status feature,
 and to show the definition of EMPLOYEE-MASTER-RECORD as viewed from
 the TEST status.



00083 AUTHORITY "ANALYST".
 DM01060I AUTHORITY RECOGNISED

00084 STATUS "TEST".
 DM00096I NON-FROZEN STATUS TEST RECOGNISED

00085 KEEP AND LIST MEMBERS EMPLOYEE-JOB-DATA, JOB-COUNT,
 00086 EMPLOYEE-JOB, EMPLOYEE-JOB-CODE, EMPLOYEE-DATE.

LIST OF SELECTED MEMBERS

MEMBER NAME	TYPE	USAGE	CONDITION	AC	ALT	REM	OWNER
EMPLOYEE-JOB-DATA	SOURCE	*SCE	YES	YES	YES		
JOB-COUNT	SOURCE	*SCE	YES	YES	YES		
EMPLOYEE-JOB	SOURCE	*SCE	YES	YES	YES		
EMPLOYEE-JOB-CODE	SOURCE	*SCE	YES	YES	YES		
EMPLOYEE-DATE	SOURCE	*SCE	YES	YES	YES		

Select status "TEST".

Status TEST already has new definitions
 inserted for a group EMPLOYEE-JOB-DATA.
 Let us encode the new definitions, if
 not already encoded.

LIST CONTAINS 5 CONTAINING SOURCE DETAILS ONLY
 5 MEMBERS IN TOTAL

DM01541I 5 ENTRIES ADDED TO KEPT-DATA LIST

00087 BULK ENCODE KEPT-DATA.

DM01296I ENCODING OF EMPLOYEE-JOB-DATA

00100 GROUP
 00200 HELD-AS
 00300 CONTAINS JOB-COUNT,
 00400 (JOB-COUNT) EMPLOYEE-JOB INDEXED-BY JHIST
 00500 ALIAS LOW-LEVEL 'EMPWORK'
 00600 DESCRIPTION
 00700 'VARIABLE LENGTH WORK HISTORY SEGMENT'

DM01280I EMPLOYEE-JOB-DATA SUCCESSFULLY ENCODED

DM01296I ENCODING OF JOB-COUNT

00100 ITEM
 00200 HELD-AS NUMERIC 2 CONTENTS IS 3
 JOB-COUNT SUCCESSFULLY ENCODED

DM01280I

DM01296I ENCODING OF EMPLOYEE-JOB

00100 GROUP
 00200 HELD-AS
 00300 CONTAINS EMPLOYEE-DEPARTMENT,
 00400 EMPLOYEE-JOB-CODE,
 00500 EMPLOYEE-SALARY,

```

X320      00600      EMPLOYEE-DATE KNOWN-AS AS-OF-DATE
          00700      ALIAS LOW-LEVEL "EMPJOB"
          00800      DESCRIPTION
          00900      "EMPLOYEE JOB ENTRY AS OF EMPLOYEE-DATE."
DM01280I  EMPLOYEE-JOB SUCCESSFULLY ENCODED

DM01296I  ENCODING OF EMPLOYEE-JOB-CODE
          00100      ITEM
          00200      REPORTED-AS PICTURE "AAA"
          00300      HELD-AS NUMERIC 3 CONTENTS
          00400      RANGE 100 TO 109 CONDITION-NAME TRAINEE-TECH-OFFICER
          00500      ELSE RANGE 110 TO 119 CONDITION-NAME JNR-TECH-OFFICER
          00600      ELSE RANGE 120 TO 149 CONDITION-NAME SNR-TECH-OFFICER
          00700      ALIAS LOW-LEVEL 'EMPJOB'
          00800      DESCRIPTION
          00900      'EMPLOYEE JOB TITLE CODE'
DM01280I  EMPLOYEE-JOB-CODE SUCCESSFULLY ENCODED

DM01296I  ENCODING OF EMPLOYEE-DATE
          00100      ITEM
          00200      HELD-AS NAME STANDARD-DATE
          00300      REPORTED-AS NAME STANDARD-DATE
          00400      ALIAS LOW-LEVEL 'EMPDATE'
          00500      DESCRIPTION
          00600      'EMPLOYEE WORD DATE.'
DM01280I  EMPLOYEE-DATE SUCCESSFULLY ENCODED

DM01520I  5 MEMBERS PROCESSED BY BULK ENCODE

          00088      LIST NEW ITEMS.

LIST OF SELECTED ITEMS
MEMBER NAME      TYPE      USAGE CONDITION AC ALT.REM OWNER

EMPLOYEE-DATE      ITEM      1 SCE ENC YES YES YES
EMPLOYEE-JOB-CODE  ITEM      1 SCE ENC YES YES YES
JOB-COUNT          ITEM      2 SCE ENC YES YES YES

LIST CONTAINS      3 ITEMS

          00089      PRINT EMPLOYEE-MASTER-RECORD.

          PRINT OF EMPLOYEE-MASTER-RECORD
          00100      GROUP
          00200      HELD-AS
          00300      CONTAINS EMPLOYEE-CODE,
          00400      EMPLOYEE-IDENTIFICATION,
          00500      EMPLOYEE-JOB-DATA,
          00700      EDUCATION,
          00800      EXPERIENCE,
          00900      TAX-CODE,
          01000      SOCIAL-SECURITY-CODE
          07000      ALIAS LOW-LEVEL 'EMPMSRC'
          09000      DESCRIPTION
          09100      'EMPLOYEE MASTER FILE RECORD'
          END OF PRINT

          00090      ENCODE EMPLOYEE-MASTER-RECORD.
DM01296I  ENCODING OF EMPLOYEE-MASTER-RECORD
          00100      GROUP
          00200      HELD-AS
          00300      CONTAINS EMPLOYEE-CODE,
          00400      EMPLOYEE-IDENTIFICATION,
          00500      EMPLOYEE-JOB-DATA,
          00700      EDUCATION,
          00800      EXPERIENCE,
          00900      TAX-CODE,
          01000      SOCIAL-SECURITY-CODE
          07000      ALIAS LOW-LEVEL 'EMPMSRC'
          09000      DESCRIPTION
          09100      'EMPLOYEE MASTER FILE RECORD'
DM01280I  EMPLOYEE-MASTER-RECORD SUCCESSFULLY ENCODED

```

Using the status-related selection clause of the LIST command, we can obtain a LIST of those items new to the dictionary in the TEST status.

Now let us check that EMPLOYEE-MASTER-RECORD contains the new groups and items in its structure, and the new version is encoded.

X320

00091 PRINT EMPLOYEE-CODE.

00100 PRINT OF EMPLOYEE-CODE
00200 ITEM
00300 ENTERED-AS ALPHANUMERIC 4
00400 HELD-AS NUMERIC 4 CONTENTS RANGE 1000 TO 8000
07000 REPORTED-AS PICTURE '9999'
08000 ALIAS LOW-LEVEL 'EMPCODE'
09000 CATALOG 'EMPLOYEE', 'CODE'
09100 DESCRIPTION
10000 'STANDARD EMPLOYEE CODE'
10100 NOTE
10200 'INPUT FORM'
' EMPLOYEE-TRANSACTIONS-FORM'
END OF PRINT

00092 MODIFY EMPLOYEE-CODE.

00093 CHANGE ALL "4" TO "6"
2 CHANGES MADE

DMO1157I

00094

DMO1180I

DMO1296I

ALTERATION HAS CREATED NEW SOURCE RECORD
ENCODING OF EMPLOYEE-CODE

00100 ITEM
00200 ENTERED-AS ALPHANUMERIC 6
00300 HELD-AS NUMERIC 6 CONTENTS RANGE 1000 TO 8000
00400 REPORTED-AS PICTURE '9999'
07000 ALIAS LOW-LEVEL 'EMPCODE'
08000 CATALOG 'EMPLOYEE', 'CODE'
09000 DESCRIPTION
09100 'STANDARD EMPLOYEE CODE'
10000 NOTE
10100 'INPUT FORM'
10200 ' EMPLOYEE-TRANSACTIONS-FORM'

DMO1280I

EMPLOYEE-CODE SUCCESSFULLY ENCODED

*In addition to new items, let us
increase the field length of
EMPLOYEE-CODE from four to six
characters in status TEST.*

what about this?

X320

00096

WHAT CONSTITUTES EMPLOYEE-MASTER-RECORD.

Let us see what now constitutes
EMPLOYEE-MASTER-RECORD in TEST status,

GROUP	EMPLOYEE-MASTER-RECORD REFERS TO
ITEM	EMPLOYEE-CODE
GROUP	EMPLOYEE-IDENTIFICATION
GROUP	EMPLOYEE-JOB-DATA
GROUP	EDUCATION
GROUP	EXPERIENCE
ITEM	TAX-CODE
ITEM	SOCIAL-SECURITY-CODE
ITEM	EMPLOYEE-CODE REFERS TO NO MEMBERS
GROUP	EMPLOYEE-IDENTIFICATION REFERS TO
ITEM	EMPLOYEE-NAME
ITEM	EMPLOYEE-STREET
ITEM	EMPLOYEE-TOWN
ITEM	EMPLOYEE-TELEPHONE
GROUP	EMPLOYEE-JOB-DATA REFERS TO
ITEM	JOB-COUNT
GROUP	EMPLOYEE-JOB
ITEM	JOB-COUNT
GROUP	EDUCATION REFERS TO
ITEM	COLLEGE-NAME
ITEM	QUALIFICATIONS
GROUP	EXPERIENCE REFERS TO
ITEM	EMPLOYING-COMPANY
ITEM	EXPERIENCE-CODE
ITEM	EXPERIENCE-YRS
ITEM	TAX-CODE REFERS TO NO MEMBERS
ITEM	SOCIAL-SECURITY-CODE REFERS TO NO MEMBERS
ITEM	EMPLOYEE-NAME REFERS TO NO MEMBERS
ITEM	EMPLOYEE-STREET REFERS TO NO MEMBERS
ITEM	EMPLOYEE-TOWN REFERS TO NO MEMBERS
ITEM	EMPLOYEE-TELEPHONE REFERS TO NO MEMBERS
ITEM	JOB-COUNT REFERS TO NO MEMBERS
GROUP	EMPLOYEE-JOB REFERS TO
ITEM	EMPLOYEE-DEPARTMENT
ITEM	EMPLOYEE-JOB-CODE
ITEM	EMPLOYEE-SALARY
ITEM	EMPLOYEE-DATE
ITEM	COLLEGE-NAME REFERS TO NO MEMBERS
ITEM	QUALIFICATIONS REFERS TO NO MEMBERS
ITEM	EMPLOYING-COMPANY REFERS TO NO MEMBERS
ITEM	EXPERIENCE-CODE REFERS TO NO MEMBERS
ITEM	EXPERIENCE-YRS REFERS TO
ITEM	EMPLOYEE-DEPARTMENT
ITEM	EMPLOYEE-DEPARTMENT REFERS TO NO MEMBERS
ITEM	EMPLOYEE-JOB-CODE REFERS TO NO MEMBERS
ITEM	EMPLOYEE-SALARY REFERS TO NO MEMBERS
ITEM	EMPLOYEE-DATE REFERS TO
ITEM	STANDARD-DATE
ITEM	STANDARD-DATE
ITEM	STANDARD-DATE REFERS TO NO MEMBERS

X320

00096 STATUS "CONV".
DM00096I NON-FROZEN STATUS CONV RECOGNISED
00097 WHAT CONSTITUTES EMPLOYEE-MASTER-RECORD.

... and compare this with ...

what constitutes EMPLOYEE-MASTER-RECORD in status CONV.

GROUP	EMPLOYEE-MASTER-RECORD REFERS TO
ITEM	EMPLOYEE-CODE
GROUP	EMPLOYEE-IDENTIFICATION
ITEM	EMPLOYEE-DEPARTMENT
ITEM	EMPLOYEE-SALARY
GROUP	EDUCATION
GROUP	EXPERIENCE
ITEM	TAX-CODE
ITEM	SOCIAL-SECURITY-CODE
ITEM	EMPLOYEE-CODE
ITEM	EMPLOYEE-DEPARTMENT
MODULE	P1U02
ITEM	EMPLOYEE-CODE REFERS TO NO MEMBERS
GROUP	EMPLOYEE-IDENTIFICATION REFERS TO
ITEM	EMPLOYEE-NAME
ITEM	EMPLOYEE-STREET
ITEM	EMPLOYEE-TOWN
ITEM	EMPLOYEE-TELEPHONE
ITEM	EMPLOYEE-DEPARTMENT REFERS TO NO MEMBERS
ITEM	EMPLOYEE-SALARY REFERS TO NO MEMBERS
GROUP	EDUCATION REFERS TO
ITEM	COLLEGE-NAME
ITEM	QUALIFICATIONS
GROUP	EXPERIENCE REFERS TO
ITEM	EMPLOYING-COMPANY
ITEM	EXPERIENCE-CODE
ITEM	EXPERIENCE-YRS
ITEM	TAX-CODE REFERS TO NO MEMBERS
ITEM	SOCIAL-SECURITY-CODE REFERS TO NO MEMBERS
ITEM	EMPLOYEE-NAME REFERS TO NO MEMBERS
ITEM	EMPLOYEE-STREET REFERS TO NO MEMBERS
ITEM	EMPLOYEE-TOWN REFERS TO NO MEMBERS
ITEM	EMPLOYEE-TELEPHONE REFERS TO NO MEMBERS
ITEM	COLLEGE-NAME REFERS TO NO MEMBERS
ITEM	QUALIFICATIONS REFERS TO NO MEMBERS
ITEM	EMPLOYING-COMPANY REFERS TO NO MEMBERS
ITEM	EXPERIENCE-CODE REFERS TO NO MEMBERS
ITEM	EXPERIENCE-YRS REFERS TO
ITEM	EMPLOYEE-DEPARTMENT

* DESCRIPTION OF EMPLOYEE-MASTER-RECORD *						
*DEC	*HEX	* LEVEL & NAME *			*LENGTH*	* TYPE * ALIGN * REMARKS *
OFFSET	*OFFSET*					
* 0 *	* 0 *	* 1 *	* EMPLOYEE-MASTER-RECORD *		* 205 *	* GROUP * *
* 0 *	* 0 *	* 2 *	* EMPLOYEE-CODE *		* 4 *	* NUM * * 4 DIGITS *
* 4 *	* 4 *	* 2 *	* EMPLOYEE-IDENTIFICATION *		* 100 *	* GROUP * *
* 4 *	* 4 *	* 3 *	* EMPLOYEE-NAME *		* 30 *	* CHAR * *
* 34 *	* 22 *	* 3 *	* EMPLOYEE-STREET *		* 40 *	* CHAR * *
* 74 *	* 4A *	* 3 *	* EMPLOYEE-TOWN *		* 20 *	* CHAR * *
* 94 *	* 5E *	* 3 *	* EMPLOYEE-TELEPHONE *		* 10 *	* NUM * * 10 DIGITS *
* 104 *	* 68 *	* 2 *	* EMPLOYEE-DEPARTMENT *		* 3 *	* NUM * * 3 DIGITS *
* 107 *	* 6B *	* 2 *	* EMPLOYEE-SALARY *		* 5 *	* NUM * * 5 DIGITS *
* 112 *	* 70 *	* 2 *	* EDUCATION *		* 40 *	* GROUP * *
* 112 *	* 70 *	* 3 *	* COLLEGE-NAME *		* 30 *	* CHAR * *
* 142 *	* 8E *	* 3 *	* QUALIFICATIONS *		* 10 *	* CHAR * *
* 152 *	* 98 *	* 2 *	* EXPERIENCE *		* 34 *	* GROUP * *
* 152 *	* 98 *	* 3 *	* EMPLOYING-COMPANY *		* 30 *	* CHAR * *
* 182 *	* B6 *	* 3 *	* EXPERIENCE-CODE *		* 2 *	* NUM * * 2 DIGITS *
* 184 *	* B8 *	* 3 *	* EXPERIENCE-YRS *		* 2 *	* NUM * * 2 DIGITS *
* 186 *	* BA *	* 2 *	* TAX-CODE *		* 4 *	* NUM * * 4 DIGITS *
* 190 *	* BE *	* 2 *	* SOCIAL-SECURITY-CODE *		* 15 *	* ALNUM * *

X320

00100 STATUS "TEST".
 DMO0096I NON-FROZEN STATUS TEST RECOGNISED

... with those in status TEST.

00101 PRODUCE RECORD-LAYOUTS FROM EMPLOYEE-MASTER-RECORD
 00102 PRINT.

***** * DESCRIPTION OF EMPLOYEE-MASTER-RECORD *****						
*DEC *OFFSET	*HEX *OFFSET	*LEVEL & NAME	*LENGTH	*TYPE	*ALIGN	REMARKS
* 0 *	* 0 *	* 1 * EMPLOYEE-MASTER-RECORD	* 252 *	* GROUP *	* *	
* 0 *	* 0 *	* 2 * EMPLOYEE-CODE	* 6 *	* NUM *	* 6 DIGITS	
* 6 *	* 6 *	* 2 * EMPLOYEE-IDENTIFICATION	* 100 *	* GROUP *	* *	
* 6 *	* 6 *	* 3 * EMPLOYEE-NAME	* 30 *	* CHAR *	* *	
* 36 *	* 24 *	* 3 * EMPLOYEE-STREET	* 40 *	* CHAR *	* *	
* 76 *	* 4C *	* 3 * EMPLOYEE-TOWN	* 20 *	* CHAR *	* *	
* 96 *	* 60 *	* 3 * EMPLOYEE-TELEPHONE	* 10 *	* NUM *	* 10 DIGITS	
* 106 *	* 6A *	* 2 * EMPLOYEE-JOB-DATA	* 53 *	* GROUP *	* *	
* 106 *	* 6A *	* 3 * JOB-COUNT	* 2 *	* NUM *	* 2 DIGITS	
* 108 *	* 6C *	* 3 * EMPLOYEE-JOB	* 17 *	* GROUP *	* OCCURS JOB-COUNT TIMES (3)	
* 108 *	* 6C *	* 4 * EMPLOYEE-DEPARTMENT	* 3 *	* NUM *	* 3 DIGITS	
* 111 *	* 6F *	* 4 * EMPLOYEE-JOB-CODE	* 3 *	* NUM *	* 3 DIGITS	
* 114 *	* 72 *	* 4 * EMPLOYEE-SALARY	* 5 *	* NUM *	* 5 DIGITS	
* 119 *	* 77 *	* 4 * EMPLOYEE-DATE	* 6 *	* NUM *	* 6 DIGITS	
* 159 *	* 9F *	* 2 * EDUCATION	* 40 *	* GROUP *	* *	
* 159 *	* 9F *	* 3 * COLLEGE-NAME	* 30 *	* CHAR *	* *	
* 189 *	* BD *	* 3 * QUALIFICATIONS	* 10 *	* CHAR *	* *	
* 199 *	* C7 *	* 2 * EXPERIENCE	* 34 *	* GROUP *	* *	
* 199 *	* C7 *	* 3 * EMPLOYING-COMPANY	* 30 *	* CHAR *	* *	
* 229 *	* E5 *	* 3 * EXPERIENCE-CODE	* 2 *	* NUM *	* 2 DIGITS	
* 231 *	* E7 *	* 3 * EXPERIENCE-YRS	* 2 *	* NUM *	* 2 DIGITS	
* 233 *	* E9 *	* 2 * TAX-CODE	* 4 *	* NUM *	* 4 DIGITS	
* 237 *	* ED *	* 2 * SOCIAL-SECURITY-CODE	* 15 *	* ALNUM *	* *	

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00103 PRODUCE COBOL FROM EMPLOYEE-MASTER-RECORD NOGEN
00104 PRINT USING HELD-AS GIVING CONDITION-NAMES.

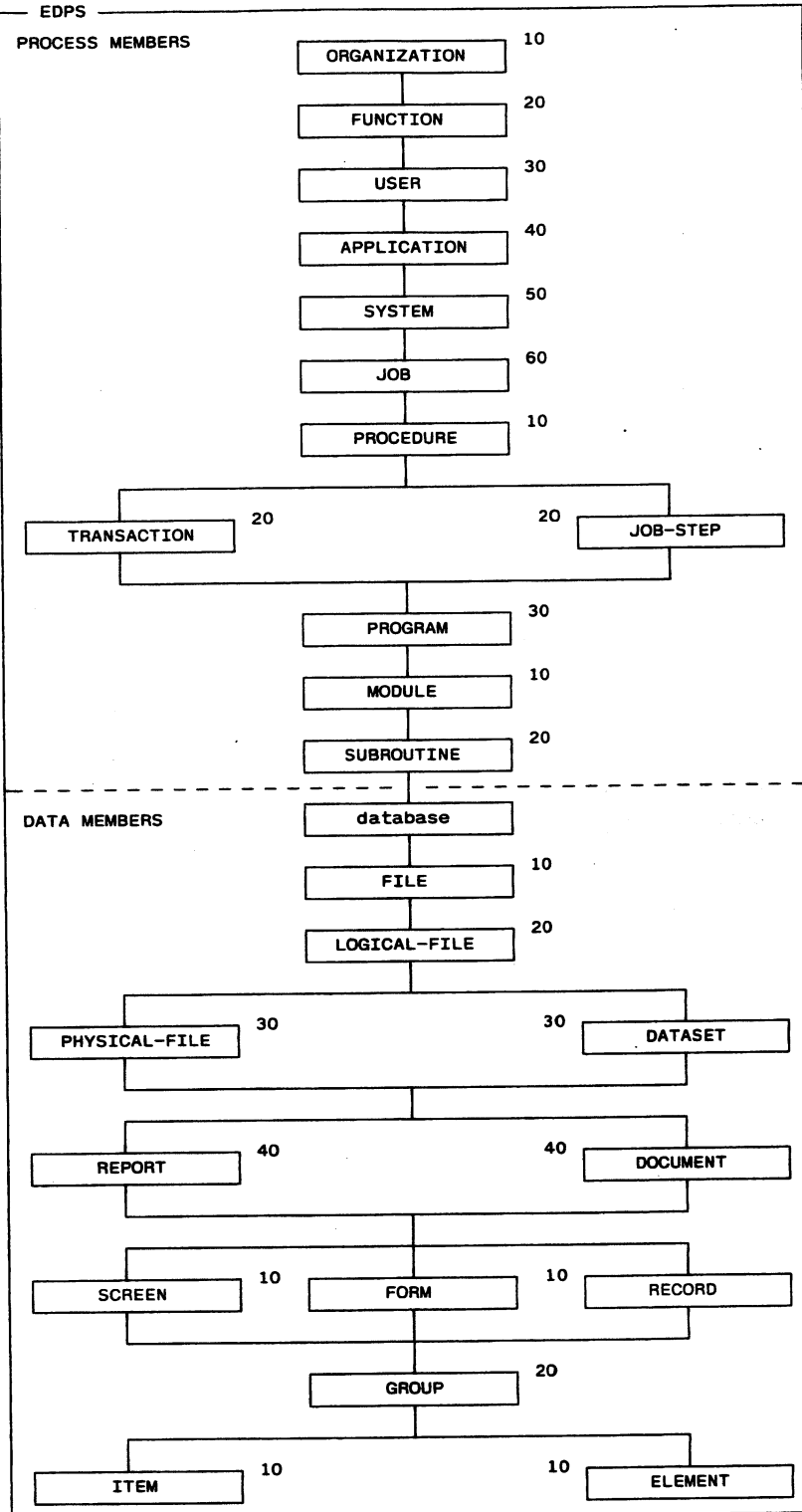
```
01 EMPLOYEE-MASTER-RECORD.
02 EMPLOYEE-CODE          PIC 9(6).
02 EMPLOYEE-IDENTIFICATION.
04 EMPLOYEE-NAME          PIC X(30).
04 EMPLOYEE-STREET        PIC X(40).
04 EMPLOYEE-TOWN          PIC X(20).
04 EMPLOYEE-TELEPHONE     PIC 9(10).
02 EMPLOYEE-JOB-DATA.
04 JOB-COUNT              PIC 99.
04 EMPLOYEE-JOB           OCCURS 1 TO 3 TIMES
                          DEPENDING ON JOB-COUNT
                          INDEXED JHIST.
06 EMPLOYEE-DEPARTMENT    PIC 999.
06 EMPLOYEE-JOB-CODE      PIC 999.
88 TRAINEE-TECH-OFFICER  VALUE 100
                          THRU 109.
88 JNR-TECH-OFFICER      VALUE 110
                          THRU 119.
88 SNR-TECH-OFFICER      VALUE 120
                          THRU 149.
06 EMPLOYEE-SALARY        PIC 9(5).
06 EMPLOYEE-DATE          PIC 9(6).
02 EDUCATION.
04 COLLEGE-NAME          PIC X(30).
04 QUALIFICATIONS         PIC X(10).
02 EXPERIENCE.
04 EMPLOYING-COMPANY      PIC X(30).
04 EXPERIENCE-CODE        PIC 99.
04 EXPERIENCE-YRS         PIC 99.
02 TAX-CODE               PIC 9(4).
02 SOCIAL-SECURITY-CODE   PIC X(15).
```

DM02217I

EMPLOYEE-MASTER-RECORD SUCCESSFULLY GENERATED

The test definition of EMPLOYEE-JOB-CODE uses CONDITION-NAME clauses for specific job code value ranges. We can produce COBOL level-88s from such clauses:

X360 THE DATAMANAGER EXAMPLE DICTIONARY	(DATAMANAGER RELEASE 4.1.0 20 AUG 1982)	X360
COMMANDS DEMONSTRATED	DESCRIPTION	
AUTHORITY "ANALYST". STATUS "UDS". REPORT P1-ERS. KEEP WHAT CONSTITUTES P1-ERS. LIST KEPT-DATA ALPHABETICALLY. REPORT P2-EHS. LIST JOBS. WHICH JOBS CONSTITUTE P1-ERS. GLOSSARY JOBS GIVING DESCRIPTIONS. LIST REPORTS. GLOSSARY REPORTS GIVING ADMINISTRATIVE-DATA. LIST PHYSICAL-FILES. LIST RECORDS. WHICH PHYSICAL-FILES USE TRANSACTION-RECORD. GLOSSARY PHYSICAL-FILES GIVING REFERENCES. LIST ATTRIBUTES. GLOSSARY FOR REPORTS GIVING TITLE, CIRCULATION PRINT-RUN. WHICH JOBS HAVE SUPPORT-PROGRAMMER SPECIFIED. WHICH MEMBERS HAVE CIRCULATION INCLUDING 'SALARY & WAGES DEPARTMENT'. KEEP LIST PHYSICAL-FILES. PERFORM "PROD COBOL FR * NOGE PR G FD." "SPACE 5." KEPT-DATA.	DATAMANAGER EXAMPLE DICTIONARY - USER DEFINED SYNTAX DEMONSTRATION To show use of the UDS facility of DATAMANAGER for recording a view of the conventional file systems defined in the DATAMANAGER example dictionary using the Extended Data Processing Structure (EDPS). Specification of the User Defined Attributes contained in the following demonstration is illustrated in the forms UDS 50-1 and UDS 60-1 to 60-5 which follow the EDPS diagram.	





DATAMANAGER USER DEFINED SYNTAX

Organization (short name): MSP

Date: 8 2 0 8 2 0

Page: U0550-1

y y m m d d



DATAMANAGER

USER DEFINED SYNTAX

Attribute Specification

Organization (short name): MSP

Date: 820820

Page: UDS00-1

yy mm dd

IMPORTANT Ensure that each section of this form is completed.

[illegible]

A IDENTIFYING KEYWORD OR ATTRIBUTE NAME:		CIRCULATION	
B ATTRIBUTE TYPE (✓ one box only):			
DATE	DECIMAL NUMBER	FREE FORM TEXT	IDENTIFIED INTEGER KEYWORD
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
NAME	STRING	TEXT	TIME
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
		UNIDENTIFIED KEYWORD	<input type="text"/>
C ATTRIBUTE SPECIFICATIONS:		V1 MUTUALLY EXCLUSIVE WITH THE FOLLOWING ATTRIBUTES:	
1 MANDATORY	with ERROR	<input type="text"/>	<input type="text"/>
	with WARNING	<input type="text"/>	<input type="text"/>
	OPTIONAL	<input type="text"/>	<input type="text"/>
11 INDEXED	by PRESENCE	<input type="text"/>	<input type="text"/>
	by VALUE	<input type="text"/>	<input type="text"/>
	NOT INDEXED	<input type="text"/>	<input type="text"/>
		OR	Not mutually exclusive. ✓
111 CHARACTER LENGTH	Min no.	<input type="text"/>	<input type="text"/>
	Max no.	<input type="text"/>	<input type="text"/>
	as default/ not applicable	<input type="text"/>	<input type="text"/>
1V TEXT LINES	Min no.	<input type="text"/>	<input type="text"/>
	Max no.	<input type="text"/>	<input type="text"/>
	as default/ not applicable	<input type="text"/>	<input type="text"/>
V VALUE RANGE	Min value	<input type="text"/>	<input type="text"/>
	Max value	<input type="text"/>	<input type="text"/>
	as default/ not applicable	<input type="text"/>	<input type="text"/>
		OR	No allowed values or no values. ✓



DATAMANAGER USER DEFINED SYNTAX Attribute Specification

Organization (short name):
MSP
Date: 8/20/82
Page: UDS40-2
yy mm dd

IMPORTANT Ensure that each section of this form is completed.

A IDENTIFYING KEYWORD OR ATTRIBUTE NAME:		MSP use TABLE=	
TITLE		LABEL=	
B ATTRIBUTE TYPE (✓ one box only):			
DATE	IDENTIFIED	INTEGER	
DECIMAL	FREE FORM	KEYWORD	
NUMBER	TEXT		
NAME	STRING	TEXT	
UNIDENTIFIED	TIME	KEYWORD	
KEYWORD			
C ATTRIBUTE SPECIFICATIONS:			
1 MANDATORY		v1 MUTUALLY EXCLUSIVE WITH THE FOLLOWING ATTRIBUTES:	
with ERROR			
with WARNING			
OPTIONAL			
11 INDEXED		OR Not mutually exclusive.	
by PRESENCE			
by VALUE			
NOT INDEXED			
111 CHARACTER LENGTH		v11 ALLOWED VALUES or KEYWORDS	
Min no.			
Max no.			
as default/ not applicable			
1v TEXT LINES			
Min no.			
Max no.			
as default/ not applicable			
v VALUE RANGE			
Min value			
Max value			
as default/ not applicable			
		OR No allowed values or keywords.	



DATAMANAGER USER DEFINED SYNTAX Attribute Specification

Organization (short name):
MSP
Date: 8/20/82
Page: UDS40-3
yy mm dd

IMPORTANT Ensure that each section of this form is completed.

A IDENTIFYING KEYWORD OR ATTRIBUTE NAME:		MSP use TABLE=	
PRINT-RUN		LABEL=	
B ATTRIBUTE TYPE (✓ one box only):			
DATE	IDENTIFIED	INTEGER	
DECIMAL	FREE FORM	KEYWORD	
NUMBER	TEXT		
NAME	STRING	TEXT	
UNIDENTIFIED	TIME	KEYWORD	
KEYWORD			
C ATTRIBUTE SPECIFICATIONS:			
1 MANDATORY		v1 MUTUALLY EXCLUSIVE WITH THE FOLLOWING ATTRIBUTES:	
with ERROR			
with WARNING			
OPTIONAL			
11 INDEXED		OR Not mutually exclusive.	
by PRESENCE			
by VALUE			
NOT INDEXED			
111 CHARACTER LENGTH		v11 ALLOWED VALUES or KEYWORDS	
Min no.			
Max no.			
as default/ not applicable			
1v TEXT LINES			
Min no.			
Max no.			
as default/ not applicable			
v VALUE RANGE			
Min value			
Max value			
as default/ not applicable			
		OR No allowed values or keywords.	



DATAMANAGER
USER DEFINED SYNTAX
Attribute Specification

Organization (short name):
MSP
Date: 8/20/82
Page: 4
used-4
y y m m d d

IMPORTANT Ensure that each section of this form is completed.

A IDENTIFYING KEYWORD OR ATTRIBUTE NAME: AUDITED		MSP use TABLE=
B ATTRIBUTE TYPE (✓ one box only):		
DATE	DECIMAL NUMBER	FREE FORM TEXT
NAME	STRING	TEXT
	✓	
		UNIDENTIFIED KEYWORD
C ATTRIBUTE SPECIFICATIONS:		
1 MANDATORY	with ERROR	✓
	with WARNING	
	OPTIONAL	
11 INDEXED	by PRESENCE	✓
	by VALUE	
	NOT INDEXED	
	OR NOT MUTUALLY EXCLUSIVE.	✓
111 CHARACTER LENGTH	Min no.	
	Max no.	
	as default/not applicable	✓
TEXT LINES	Min no.	
	Max no.	
	as default/not applicable	✓
VALUE RANGE	Min value	
	Max value	
	as default/not applicable	✓
	OR No allowed values or keywords.	✓



DATAMANAGER
USER DEFINED SYNTAX
Attribute Specification

Organization (short name):
MSP
Date: 8/20/82
Page: 5
used-5
y y m m d d

IMPORTANT Ensure that each section of this form is completed.

A IDENTIFYING KEYWORD OR ATTRIBUTE NAME: SUPPORT-PROGRAMMER		MSP use TABLE=
B ATTRIBUTE TYPE (✓ one box only):		
DATE	DECIMAL NUMBER	FREE FORM TEXT
NAME	STRING	TEXT
	✓	
		UNIDENTIFIED KEYWORD
C ATTRIBUTE SPECIFICATIONS:		
1 MANDATORY	with ERROR	✓
	with WARNING	
	OPTIONAL	
11 INDEXED	by PRESENCE	✓
	by VALUE	
	NOT INDEXED	
	OR NOT MUTUALLY EXCLUSIVE.	✓
111 CHARACTER LENGTH	Min no.	
	Max no.	
	as default/not applicable	✓
TEXT LINES	Min no.	
	Max no.	
	as default/not applicable	✓
VALUE RANGE	Min value	
	Max value	
	as default/not applicable	✓
	OR No allowed values or keywords.	✓

X360

00111 AUTHORITY "ANALYST".
DM01060I AUTHORITY RECOGNISED
00112 STATUS "UDS".
DM00096I NON-FROZEN STATUS UDS RECOGNISED
00113 REPORT P1-ERS.

REPORT OF SYSTEM P1-ERS

EDITION 8 ENCODED BY MASTER AT 10.55.16 ON 09 MAR 1982
STATUS UDS
PROTECTION: NONE

ALIAS
EMPLOYEE-RECORDS-SYSTEM

CATALOGUED AS
PERSONNEL

DESCRIPTION
THIS SYSTEM MAINTAINS PRODUCTION DIVISION EMPLOYEE RECORDS

NOTE
DATES DEVELOPED
JANUARY 1979 TO AUGUST 1979

SYSTEM EFFORT
2 MAN-MONTHS FOR SYSTEM DESIGN
1 MAN-MONTHS FOR PROGRAM SPECIFICATIONS
3 MAN-MONTHS FOR SYSTEM TESTING,
USER TRAINING AND IMPLEMENTATION

PROGRAMMING EFFORT
4 MAN-MONTHS

PROJECT LEADER
ALAN JOHNSON (EXT. 253)

COMPUTER TIME USED
TESTED PROGRAMS USING HEAD OFFICE
IBM S/370-158 OS/MVS INSTALLATION
PROGRAM TESTING 1 HOUR 30 MINUTES
SYSTEM TESTING 0 HOUR 40 MINUTES
DEMONSTRATION 0 HOUR 25 MINUTES

OTHER COSTS
1 MAN-MONTH ORGANISATION AND METHODS STAFF
3 BOXES OF PLAIN ONE PART STATIONERY

LESSONS LEARNT
1: DO NOT TEST ON-LINE PROGRAMS IN BATCH
MODE BY SIMULATING CARD READER AS INPUT
TERMINAL
2: ALWAYS CONSULT AUDITORS BEFORE FINALISING
DATA CONTROL REPORTS

PROCEDURES
THIS SYSTEM IS MADE UP OF TWO JOBS
JOB 1 IS RUN IN ON-LINE MODE DAILY
JOB 2 IS RUN IN BATCH MODE AT THE END OF A
WEEK

THIS MEMBER IS DIRECTLY REFERRED TO 0 TIMES
THIS MEMBER CONTAINS 2 DIRECT REFERENCES

SYSTEM P1-ERS

PARAMETERS NO DATA

INPUTS NO DATA

OUTPUTS NO DATA

UPDATES NO DATA

CALLS NO MEMBERS

CONTAINS
JOB P1J01
JOB P1J02

In status UDS we have a view of the conventional file systems using the EDPS members JOB, FORM, REPORT, PHYSICAL-FILE ELEMENT and RECORD in addition to the standard DATAMANAGER member types.

The reader may care to compare this formatted report of system P1-ERS, and

X360

00114 KEEP WHAT CONSTITUTES P1-ERS.
DM01541I 47 ENTRIES ADDED TO KEPT-DATA LIST

00115 LIST KEPT-DATA ALPHABETICALLY.

... a list of the members that constitute it, with that shown at the start of demonstration X200 for P1-ERS in the standard conventional file environment.

LIST OF SELECTED MEMBERS

MEMBER NAME	TYPE	USAGE	CONDITION	AC	ALT	REM	OWNER
COLLEGE-NAME	ELEMENT	1	SCE	ENC	YES	YES	YES
EDUCATION	GROUP	1	SCE	ENC	YES	YES	YES
EMPLOYEE-AFTER-UPDATE	ELEMENT	1	SCE	ENC	YES	YES	YES
EMPLOYEE-BEFORE-UPDATE	ELEMENT	2	SCE	ENC	YES	YES	YES
EMPLOYEE-CODE	ELEMENT	8	SCE	ENC	YES	YES	PERSONNEL
EMPLOYEE-DEPARTMENT	ELEMENT	4	SCE	ENC	YES	YES	PERSONNEL
EMPLOYEE-IDENTIFICATION	GROUP	1	SCE	ENC	YES	YES	YES
EMPLOYEE-LEAVERS	ELEMENT	1	SCE	ENC	YES	YES	YES
EMPLOYEE-MASTER-RECORD	RECORD	1	SCE	ENC	YES	YES	YES
EMPLOYEE-NAME	ELEMENT	2	SCE	ENC	YES	YES	PERSONNEL
EMPLOYEE-NEWCOMERS	ELEMENT	2	SCE	ENC	YES	YES	YES
EMPLOYEE-REPORT	REPORT	2	SCE	ENC	YES	YES	YES
EMPLOYEE-REPORT-DATA	GROUP	1	SCE	ENC	YES	YES	YES
EMPLOYEE-REPORT-HEADER	GROUP	3	SCE	ENC	YES	YES	YES
EMPLOYEE-SALARY	ELEMENT	2	SCE	ENC	YES	YES	PERSONNEL
EMPLOYEE-STREET	ELEMENT	1	SCE	ENC	YES	YES	YES
EMPLOYEE-TELEPHONE	ELEMENT	1	SCE	ENC	YES	YES	YES
EMPLOYEE-TOWN	ELEMENT	1	SCE	ENC	YES	YES	YES
EMPLOYEE-TRANSACTIONS-FORM	FORM	2	SCE	ENC	YES	YES	YES
EMPLOYING-COMPANY	ELEMENT	1	SCE	ENC	YES	YES	YES
EXPERIENCE	GROUP	1	SCE	ENC	YES	YES	YES
EXPERIENCE-CODE	ELEMENT	1	SCE	ENC	YES	YES	YES
EXPERIENCE-YRS	ELEMENT	1	SCE	ENC	YES	YES	YES
P1J01	JOB	1	SCE	ENC	YES	YES	YES
P1J02	JOB	1	SCE	ENC	YES	YES	YES
P1P01	PROGRAM	1	SCE	ENC	YES	YES	YES
P1S01	PROGRAM	1	SCE	ENC	YES	YES	YES
P1S01TSORT	PHYSICAL FIL	3	SCE	ENC	YES	YES	YES
P1U02	MODULE	2	SCE	ENC	YES	YES	YES
P1U02MEMP	PHYSICAL FIL	5	SCE	ENC	YES	YES	YES
P1V01	PROGRAM	2	SCE	ENC	YES	YES	YES
P1V01WVAL	PHYSICAL FIL	2	SCE	ENC	YES	YES	YES
QUALIFICATIONS	ELEMENT	1	SCE	ENC	YES	YES	YES
REPORT-PAGE	ELEMENT	1	SCE	ENC	YES	YES	YES
REPORT-TITLE	ELEMENT	1	SCE	ENC	YES	YES	YES
SALARY-AFTER-UPDATE	ELEMENT	1	SCE	ENC	YES	YES	YES
SALARY-BEFORE-UPDATE	ELEMENT	2	SCE	ENC	YES	YES	YES
SOCIAL-SECURITY-CODE	ELEMENT	2	SCE	ENC	YES	YES	PERSONNEL
STANDARD-DATE	ELEMENT	4	SCE	ENC	YES	YES	YES
TAX-CODE	ELEMENT	2	SCE	ENC	YES	YES	PERSONNEL
TRANSACTION-CODE	ELEMENT	4	SCE	ENC	YES	YES	YES
TRANSACTION-DATA	ELEMENT	2	SCE	ENC	YES	YES	YES
TRANSACTION-DATE	ELEMENT	2	SCE	ENC	YES	YES	YES
TRANSACTION-RECORD	GROUP	4	SCE	ENC	YES	YES	YES
TRANSACTION-TOTAL	ELEMENT	1	SCE	ENC	YES	YES	YES
UPDATE-CONTROL-DATA	GROUP	1	SCE	ENC	YES	YES	YES
UPDATE-CONTROL-REPORT	REPORT	2	SCE	ENC	YES	YES	YES

LIST CONTAINS 27 ELEMENTS
7 GROUPS
1 FORM
1 RECORD
3 PHYSICAL FILES
2 REPORTS
1 MODULE
3 PROGRAMS
2 JOBS
47 MEMBERS IN TOTAL

X360

00116 REPORT P2-EHS.

*Here is the second system, P2-EHS,
using EDPS members.*

REPORT OF SYSTEM P2-EHS

EDITION 8 ENCODED BY MASTER AT 10.55.58 ON 09 MAR 1982
STATUS UDS
PROTECTION: NONE

ALIAS
EMPLOYEE-HISTORY-SYSTEM

CATALOGUED AS
PERSONNEL

DESCRIPTION
THIS SYSTEM MAINTAINS PRODUCTION DIVISION EMPLOYEE HISTORY

NOTE
DATES DEVELOPED
SEPTEMBER 1979

SYSTEM EFFORT
2 MAN-WEEKS FOR SYSTEM DESIGN
2 MAN-WEEKS FOR PROGRAM SPECIFICATIONS
2 MAN-WEEKS FOR SYSTEM TESTING

PROGRAMMING EFFORT
4 MAN-WEEKS

PROJECT LEADER
LYNDA SMITH OF UNIVERSAL SOFTWARE COMPANY,
NEW TOWN (TEL. 836 8399)

COMPUTER TIME USED
TESTED PROGRAMS USING IBM NEW TOWN CUSTOMER
CENTRE S/370-165 OS/SVS INSTALLATION
PROGRAM TESTING 0 HOUR 35 MINUTES
SYSTEM TESTING 0 HOUR 20 MINUTES

OTHER COSTS
1 BOX OF PLAIN ONE PART STATIONERY

LESSONS LEARNT
1: DO NOT USE DISK FILES FOR HISTORY RECORDS

2: ALWAYS ALLOW FOR A TRANSACTION TYPE CODE
IN A HISTORY RECORD
3: ALWAYS STUDY LEGAL REQUIREMENTS BEFORE
RECORDING PERSONAL DETAILS ON A
HISTORY FILE

PROCEDURES
THIS SYSTEM IS MADE UP OF ONLY ONE JOB
IT IS RUN IN BATCH MODE AT THE END OF A
MONTH

THIS MEMBER IS DIRECTLY REFERRED TO 0 TIMES
THIS MEMBER CONTAINS 1 DIRECT REFERENCE

SYSTEM P2-EHS

PARAMETERS NO DATA

INPUTS NO DATA

OUTPUTS NO DATA

UPDATES NO DATA

CALLS NO MEMBERS

CONTAINS
JOB

P2J01

X360

00117 LIST JOBS.

LIST OF JOBS MEMBER NAME	TYPE	USAGE	CONDITION	AC	ALT	REM	OWNER
-----------------------------	------	-------	-----------	----	-----	-----	-------

P1J01	JOB	1	SCE	ENC	YES	YES	YES
P1J02	JOB	1	SCE	ENC	YES	YES	YES
P2J01	JOB	1	SCE	ENC	YES	YES	YES

LIST CONTAINS 3 JOBS

00118 WHICH JOBS CONSTITUTE P1-ERS.

THE FOLLOWING JOBS SATISFY THE GIVEN CRITERIA

JOB	P1J01
JOB	P1J02

2 MEMBERS IN TOTAL

00119 GLOSSARY JOBS GIVING DESCRIPTIONS.

GLOSSARY OF JOBS

P1J01
JOB
DESCRIPTION
THIS JOB INPUTS AND VALIDATES EMPLOYEE TRANSACTIONS

P1J02
JOB
DESCRIPTION
THIS JOB UPDATES MASTER FILE AND PRINTS EMPLOYEE REPORT

P2J01
JOB
DESCRIPTION
THIS JOB UPDATES HISTORY FILE AND PRINTS HISTORY REPORT

GLOSSARY CONTAINS 3 JOBS

00120 LIST REPORTS.

LIST OF REPORTS MEMBER NAME	TYPE	USAGE	CONDITION	AC	ALT	REM	OWNER
--------------------------------	------	-------	-----------	----	-----	-----	-------

EMPLOYEE-HISTORY-REPORT	REPORT	2	SCE	ENC	YES	YES	YES
EMPLOYEE-REPORT	REPORT	2	SCE	ENC	YES	YES	YES
UPDATE-CONTROL-REPORT	REPORT	2	SCE	ENC	YES	YES	YES

LIST CONTAINS 3 REPORTS

00121 GLOSSARY REPORTS GIVING ADMINISTRATIVE-DATA.

GLOSSARY OF REPORTS

EMPLOYEE-HISTORY-REPORT
REPORT
ADMINISTRATIVE-DATA
REPORT IDENTIFICATION
STANDARD COMPUTER STATIONERY

INSTRUCTIONS - USER
1: FOR EACH EMPLOYEE, THE REPORT SHOWS
ALL TRANSACTIONS FOR THE YEAR-TO-DATE

2: FILE THE REPORT IN THE FILE MARKED -
MONTHLY HISTORY REPORT
DESTROY THE OLD REPORT

INSTRUCTIONS - CONTROL
NONE

EMPLOYEE-REPORT
REPORT
ADMINISTRATIVE-DATA
REPORT IDENTIFICATION
PRE-PRINTED STATIONERY BLUE
REORDER CODE PER/893

INSTRUCTIONS - USER
EACH LINE REFERS TO AN EMPLOYEE.
ENSURE THAT AMENDMENTS ARE CORRECTLY
REFLECTED IN THE REPORT

INSTRUCTIONS - CONTROL
1: USING A GUILLOTINE, CUT THE REPORT
TO 10" X 6" SIZE

2: REMOVE LINE-UP PAGES

UPDATE-CONTROL-REPORT

EDPS members can be used in standard
DATAMANAGER interrogation and
documentation commands, shown here
for JOBS,

... and REPORTS,

X360

REPORT

ADMINISTRATIVE-DATA
REPORT IDENTIFICATION
STANDARD COMPUTER STATIONERY

INSTRUCTIONS - USER

- 1: NUMBER OF TRANSACTIONS SHOULD BE
EQUAL TO TOTAL EMPLOYEE ENTRIES
MADE DURING LAST WEEK
- 2: FILE THE REPORT IN THE FILE MARKED -
WEEKLY CONTROL REPORTS

INSTRUCTIONS - CONTROL

CHECK THE FOLLOWING ITEMS:

- 1: NUMBER OF EMPLOYEE RECORDS AFTER
UPDATE SHOULD BE EQUAL TO NUMBER
OF EMPLOYEE RECORDS BEFORE UPDATE
PLUS NUMBER OF NEWCOMERS MINUS
NUMBER OF LEAVERS
- 2: IF INCREASE IN YEARLY SALARY AMOUNT
IS MORE THAN 5% OF TOTAL YEARLY SALARY
AMOUNT, MARK THE VALUE WITH A RED
PEN AND INITIAL

GLOSSARY CONTAINS 3 REPORTS

X360

00122 LIST PHYSICAL-FILES.

... and PHYSICAL-FILES and RECORDS.

LIST OF PHYSICAL FILES

MEMBER NAME	TYPE	USAGE	CONDITION	AC	ALT	REM	OWNER
P1S01TSORT	PHYSICAL FIL	3	SCE ENC YES YES YES				
P1U02MEMP	PHYSICAL FIL	5	SCE ENC YES YES YES				
P1V01WVAL	PHYSICAL FIL	2	SCE ENC YES YES YES				
P2U01TEMP	PHYSICAL FIL	3	SCE ENC YES YES YES				

LIST CONTAINS 4 PHYSICAL FILES

00123 LIST RECORDS.

LIST OF RECORDS

MEMBER NAME	TYPE	USAGE	CONDITION	AC	ALT	REM	OWNER
EMPLOYEE-MASTER-RECORD	RECORD	1	SCE ENC YES YES YES				

LIST CONTAINS 1 RECORD

00124 WHICH PHYSICAL-FILES USE TRANSACTION-RECORD.

THE FOLLOWING PHYSICAL FILES SATISFY THE GIVEN CRITERIA

PHYSICAL FILE	P1S01TSORT
PHYSICAL FILE	P1V01WVAL
PHYSICAL FILE	P2U01TEMP

3 MEMBERS IN TOTAL

00125 GLOSSARY PHYSICAL-FILES GIVING REFERENCES.

GLOSSARY OF PHYSICAL FILES

P1S01TSORT

PHYSICAL FILE

PHYSICAL FILE
GROUP
ELEMENT
ELEMENT

P1S01TSORT REFERS TO
TRANSACTION-RECORD
EMPLOYEE-CODE
TRANSACTION-CODE

GROUP
ELEMENT
ELEMENT
ELEMENT
ELEMENT

TRANSACTION-RECORD REFERS TO
TRANSACTION-CODE
EMPLOYEE-CODE
TRANSACTION-DATA
TRANSACTION-DATE

ELEMENT

EMPLOYEE-CODE REFERS TO NO MEMBERS

ELEMENT

TRANSACTION-CODE REFERS TO NO MEMBERS

ELEMENT

TRANSACTION-DATA REFERS TO NO MEMBERS

ELEMENT
ELEMENT
ELEMENT
ELEMENT

TRANSACTION-DATE REFERS TO
STANDARD-DATE
STANDARD-DATE
STANDARD-DATE

ELEMENT

STANDARD-DATE REFERS TO NO MEMBERS

P1U02MEMP

PHYSICAL FILE

PHYSICAL FILE
RECORD
ELEMENT

P1U02MEMP REFERS TO
EMPLOYEE-MASTER-RECORD
EMPLOYEE-CODE

RECORD
ELEMENT
GROUP
ELEMENT
ELEMENT
GROUP
GROUP
ELEMENT
ELEMENT
ELEMENT
ELEMENT
MODULE

EMPLOYEE-MASTER-RECORD REFERS TO
EMPLOYEE-CODE
EMPLOYEE-IDENTIFICATION
EMPLOYEE-DEPARTMENT
EMPLOYEE-SALARY
EDUCATION
EXPERIENCE
TAX-CODE
SOCIAL-SECURITY-CODE
EMPLOYEE-CODE
EMPLOYEE-DEPARTMENT
P1U02

ELEMENT

EMPLOYEE-CODE REFERS TO NO MEMBERS

GROUP
ELEMENT
ELEMENT
ELEMENT
ELEMENT

EMPLOYEE-IDENTIFICATION REFERS TO
EMPLOYEE-NAME
EMPLOYEE-STREET
EMPLOYEE-TOWN
EMPLOYEE-TELEPHONE

ELEMENT

EMPLOYEE-DEPARTMENT REFERS TO NO MEMBERS

ELEMENT

EMPLOYEE-SALARY REFERS TO NO MEMBERS

X360

GROUP	EDUCATION REFERS TO
ELEMENT	COLLEGE-NAME
ELEMENT	QUALIFICATIONS
GROUP	EXPERIENCE REFERS TO
ELEMENT	EMPLOYING-COMPANY
ELEMENT	EXPERIENCE-CODE
ELEMENT	EXPERIENCE-YRS
ELEMENT	TAX-CODE REFERS TO NO MEMBERS
ELEMENT	SOCIAL-SECURITY-CODE REFERS TO NO MEMBERS
ELEMENT	EMPLOYEE-NAME REFERS TO NO MEMBERS
ELEMENT	EMPLOYEE-STREET REFERS TO NO MEMBERS
ELEMENT	EMPLOYEE-TOWN REFERS TO NO MEMBERS
ELEMENT	EMPLOYEE-TELEPHONE REFERS TO NO MEMBERS
ELEMENT	COLLEGE-NAME REFERS TO NO MEMBERS
ELEMENT	QUALIFICATIONS REFERS TO NO MEMBERS
ELEMENT	EMPLOYING-COMPANY REFERS TO NO MEMBERS
ELEMENT	EXPERIENCE-CODE REFERS TO NO MEMBERS
ELEMENT	EXPERIENCE-YRS REFERS TO
ELEMENT	EMPLOYEE-DEPARTMENT
P1V01WVAL	
PHYSICAL FILE	
PHYSICAL FILE	P1V01WVAL REFERS TO
GROUP	TRANSACTION-RECORD
ELEMENT	TRANSACTION-RECORD REFERS TO
ELEMENT	TRANSACTION-CODE
ELEMENT	EMPLOYEE-CODE
ELEMENT	TRANSACTION-DATA
ELEMENT	TRANSACTION-DATE
ELEMENT	TRANSACTION-CODE REFERS TO NO MEMBERS
ELEMENT	EMPLOYEE-CODE REFERS TO NO MEMBERS
ELEMENT	TRANSACTION-DATA REFERS TO NO MEMBERS
ELEMENT	TRANSACTION-DATE REFERS TO
ELEMENT	STANDARD-DATE
ELEMENT	STANDARD-DATE
ELEMENT	STANDARD-DATE
ELEMENT	STANDARD-DATE REFERS TO NO MEMBERS
P2U01TEMP	
PHYSICAL FILE	
PHYSICAL FILE	P2U01TEMP REFERS TO
GROUP	TRANSACTION-RECORD
ELEMENT	TRANSACTION-RECORD REFERS TO
ELEMENT	TRANSACTION-CODE
ELEMENT	EMPLOYEE-CODE
ELEMENT	TRANSACTION-DATA
ELEMENT	TRANSACTION-DATE
ELEMENT	EMPLOYEE-CODE REFERS TO NO MEMBERS
ELEMENT	TRANSACTION-CODE REFERS TO NO MEMBERS
ELEMENT	TRANSACTION-DATA REFERS TO NO MEMBERS
ELEMENT	TRANSACTION-DATE REFERS TO
ELEMENT	STANDARD-DATE
ELEMENT	STANDARD-DATE
ELEMENT	STANDARD-DATE
ELEMENT	STANDARD-DATE REFERS TO NO MEMBERS
GLOSSARY CONTAINS	4 PHYSICAL FILES

X360

00126 LIST ATTRIBUTES.

LIST OF ATTRIBUTES MEMBER NAME	TYPE	USAGE CONDITION AC ALT REM OWNER
AUDITED	ATTRIBUTE	31
AUDITED=CONTROL-2 15 SEP 1981	ATTRIBUTE	6
AUDITED=CONTROL-2 16 SEP 1981	ATTRIBUTE	25
CIRCULATION	ATTRIBUTE	3

LIST CONTAINS 4 ATTRIBUTES
0 MEMBERS IN TOTAL

00127 GLOSSARY FOR REPORTS GIVING TITLE, CIRCULATION
00128 , PRINT-RUN.

GLOSSARY OF REPORTS

EMPLOYEE-HISTORY-REPORT
REPORT
TITLE MONTHLY EMPLOYEE HISTORY REPORT
CIRCULATION
PERSONNEL DEPARTMENT
SALARY & WAGES DEPARTMENT
PRINT-RUN 2

EMPLOYEE-REPORT
REPORT
TITLE WEEKLY EMPLOYEE DETAILS REPORT
CIRCULATION
PERSONNEL DEPARTMENT
PRINT-RUN 1

UPDATE-CONTROL-REPORT
REPORT
TITLE WEEKLY EMPLOYEE UPDATE CONTROL REPORT
CIRCULATION
PERSONNEL DEPARTMENT
AUDITING SECTION
CONTROL FILE
PRINT-RUN 3

GLOSSARY CONTAINS 3 REPORTS

00129 WHICH JOBS HAVE SUPPORT-PROGRAMMER SPECIFIED.

THE FOLLOWING JOBS SATISFY THE GIVEN CRITERIA

JOB	P1J01
JOB	P1J02
JOB	P2J01

3 MEMBERS IN TOTAL

00130 WHICH MEMBERS HAVE CIRCULATION INCLUDING
00131 'SALARY & WAGES DEPARTMENT'.

THE FOLLOWING SELECTED MEMBERS SATISFY THE GIVEN CRITERIA

REPORT	EMPLOYEE-HISTORY-REPORT
--------	-------------------------

1 MEMBER IN TOTAL

User Defined Attributes can be displayed by using the LIST ATTRIBUTES command. The list only contains attributes that have been specified as being indexed (see forms UDS 60-1, 60-4 section Cii); values for attributes may also be displayed if so specified (see form UDS 60-4 section Cii).

User Defined Attributes can be requested as part of the GLOSSARY command

... or WHICH command.

X360

```
DM01541I 00132 KEEP LIST PHYSICAL-FILES.  
          4 ENTRIES ADDED TO KEPT-DATA LIST  
  
          00133 PERFORM "PROD COBOL FR * NOGE PR G FD."  
          00134 "SPACE 5." KEPT-DATA.  
DM01551I      8 GENERATED INPUT LINES  
  
          FD P1S01TSORT  
             BLOCK CONTAINS 46 CHARACTERS  
             LABEL RECORDS ARE STANDARD  
             DATA RECORD IS TRANSACTION-RECORD.  
  
DM02217I      P1S01TSORT SUCCESSFULLY GENERATED  
  
  
          FD P1U02MEMP  
             BLOCK CONTAINS 205 CHARACTERS  
             LABEL RECORDS ARE STANDARD  
             DATA RECORD IS EMPLOYEE-MASTER-RECORD.  
  
DM02217I      P1U02MEMP SUCCESSFULLY GENERATED  
  
  
          FD P1V01WVAL  
             BLOCK CONTAINS 46 CHARACTERS  
             LABEL RECORDS ARE STANDARD  
             DATA RECORD IS TRANSACTION-RECORD.  
  
DM02217I      P1V01WVAL SUCCESSFULLY GENERATED  
  
  
          FD P2U01TEMP  
             BLOCK CONTAINS 50 CHARACTERS  
             LABEL RECORDS ARE OMITTED  
             DATA RECORD IS TRANSACTION-RECORD.  
  
DM02217I      P2U01TEMP SUCCESSFULLY GENERATED
```

Let us produce COBOL file descriptions for all PHYSICAL-FILES, by using a combination of KEEP and PERFORM "PRODUCE ...". Note that the PRODUCE command shown uses permitted keyword truncation. Note also the use of SPACE to improve the layout of the generated output.

CHAPTER 4

DATAMANAGER/TOTAL DEMONSTRATION (X400)

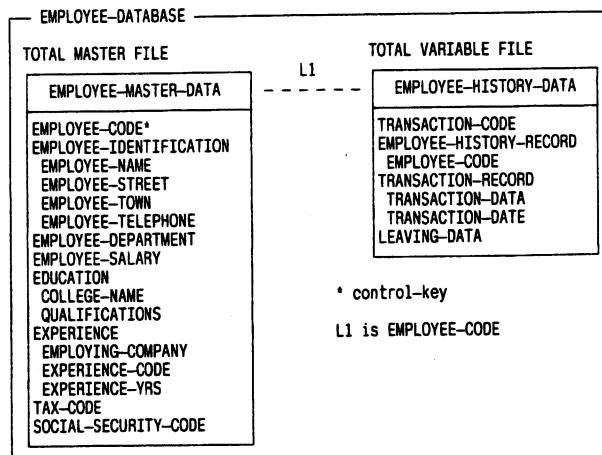
COMMANDS DEMONSTRATED

STATUS "TOT".
 AUTHORITY "ANALYST".
 LIST TOTAL-DATABASES.
 REPORT EMPLOYEE-DATABASE.
 KEEP WHAT CONSTITUTES EMPLOYEE-DATABASE.
 LIST KEPT-DATA ALPHABETICALLY.
 BULK PRINT KEPT-DATA ALPHABETICALLY.
 WHICH TOTAL-FILES CONSTITUTE EMPLOYEE-DATABASE.
 WHICH FILE USES EMPLOYEE-CODE VIA LINK.
 REPORT EMPLOYEE-MASTER-DATA.
 PRODUCE TOTAL-4 FROM EMPLOYEE-DATABASE PRINT
 NOGEN WITH-ALIAS TOTAL.
 PRODUCE TOTAL-7 FROM EMPLOYEE-DATABASE PRINT
 WITH-ALIAS TOTAL NOGEN.
 PRODUCE TOTAL-8 FROM EMPLOYEE-DATABASE PRINT
 WITH-ALIAS TOTAL NOGEN.

DESCRIPTION

DATAMANAGER EXAMPLE DICTIONARY - TOTAL DATABASE SUPPLEMENT

To show the TOTAL database defined in the DATAMANAGER example dictionary in status TOT, and to show various forms of documentation and interrogation and source language generation outputs from it.



EMPLOYEE-DATABASE is intended for simple demonstration only.

00143 STATUS "TOT".
 DM00096I NON-FROZEN STATUS TOT RECOGNISED

00144 AUTHORITY "ANALYST".
 DM01060I AUTHORITY RECOGNISED

00145 LIST TOTAL-DATABASES.

LIST OF TOTAL DATABASES	MEMBER NAME	TYPE	USAGE	CONDITION	AC	ALT	REM	OWNER
EMPLOYEE-DATABASE	TOTAL DB	0	SCE	ENC	YES	YES	YES	YES
LIST CONTAINS	1 TOTAL DATABASE							

X400

00146 REPORT EMPLOYEE-DATABASE.

Report EMPLOYEE-DATABASE.

REPORT OF TOTAL DATABASE EMPLOYEE-DATABASE

EDITION 3 ENCODED BY MASTER AT 13.51.39 ON 26 NOV 1981
STATUS TOT
PROTECTION: NONE

ALIAS
TOTAL EMPDBS

THIS MEMBER IS DIRECTLY REFERRED TO 0 TIMES
THIS MEMBER CONTAINS 2 DIRECT REFERENCES

TOTAL DATABASE EMPLOYEE-DATABASE

SHARE-IOAREA 'EMPI'

CONTAINS
TOTAL MASTER FILE EMPLOYEE-MASTER-DATA
TOTAL VARIABLE FILE EMPLOYEE-HISTORY-DATA

X400

00147 KEEP WHAT CONSTITUTES EMPLOYEE-DATABASE.
 DM01541I 26 ENTRIES ADDED TO KEPT-DATA LIST

Produce a list of contained members

00148 LIST KEPT-DATA ALPHABETICALLY.

LIST OF SELECTED MEMBERS
 MEMBER NAME

TYPE

USAGE CONDITION AC ALT REM OWNER

COLLEGE-NAME	ITEM	1	SCE	ENC	YES	YES	YES	
EDUCATION	GROUP	2	SCE	ENC	YES	YES	YES	
EMPLOYEE-CODE	ITEM	7	SCE	ENC	YES	YES		PERSONNEL
EMPLOYEE-DEPARTMENT	ITEM	3	SCE	ENC	YES	YES		PERSONNEL
EMPLOYEE-HISTORY-DATA	TOTAL	2	SCE	ENC	YES	YES	YES	
EMPLOYEE-HISTORY-RECORD	GROUP	1	SCE	ENC	YES	YES	YES	
EMPLOYEE-IDENTIFICATION	GROUP	2	SCE	ENC	YES	YES	YES	
EMPLOYEE-MASTER-DATA	TOTAL	2	SCE	ENC	YES	YES	YES	
EMPLOYEE-NAME	ITEM	2	SCE	ENC	YES	YES		PERSONNEL
EMPLOYEE-SALARY	ITEM	3	SCE	ENC	YES	YES		PERSONNEL
EMPLOYEE-STREET	ITEM	1	SCE	ENC	YES	YES	YES	
EMPLOYEE-TELEPHONE	ITEM	1	SCE	ENC	YES	YES	YES	
EMPLOYEE-TOWN	ITEM	1	SCE	ENC	YES	YES	YES	
EMPLOYING-COMPANY	ITEM	1	SCE	ENC	YES	YES	YES	
EXPERIENCE	GROUP	2	SCE	ENC	YES	YES	YES	
EXPERIENCE-CODE	ITEM	1	SCE	ENC	YES	YES	YES	
EXPERIENCE-YRS	ITEM	1	SCE	ENC	YES	YES	YES	
LEAVING-DATA	ITEM	1	SCE	ENC	YES	YES	YES	
QUALIFICATIONS	ITEM	1	SCE	ENC	YES	YES	YES	
SOCIAL-SECURITY-CODE	ITEM	3	SCE	ENC	YES	YES		PERSONNEL
STANDARD-DATE	ITEM	3	SCE	ENC	YES	YES	YES	
TAX-CODE	ITEM	3	SCE	ENC	YES	YES		PERSONNEL
TRANSACTION-CODE	ITEM	3	SCE	ENC	YES	YES	YES	
TRANSACTION-DATA	ITEM	2	SCE	ENC	YES	YES	YES	
TRANSACTION-DATE	ITEM	2	SCE	ENC	YES	YES	YES	
TRANSACTION-RECORD	GROUP	1	SCE	ENC	YES	YES	YES	

LIST CONTAINS 19 ITEMS
 5 GROUPS
 2 TOTAL FILES
 26 MEMBERS IN TOTAL

X400

00149 BULK PRINT KEPT-DATA ALPHABETICALLY.

... and a print of contained members.

00100 PRINT OF COLLEGE-NAME
00200 ITEM
07000 DEFAULTED-AS CHARACTER 30
08000 ALIAS TOTAL 'COME'
09000 CATALOG 'EMPLOYEE', 'DESCRIPTION'
09100 DESCRIPTION
END OF PRINT

00100 PRINT OF EDUCATION
00200 GROUP
00300 CONTAINS COLLEGE-NAME,
07000 QUALIFICATIONS
08000 ALIAS TOTAL 'EDON'
09000 DESCRIPTION
09100 'EDUCATION RECEIVED BY EMPLOYEE INCLUDING PROFESSIONAL TRAINING'
10000 NOTE
10100 'ACCURACY'
10200 ' ALL COLLEGE CERTIFICATES CHECKED'
10300 ' AND REFERENCES OBTAINED'
END OF PRINT

00100 PRINT OF EMPLOYEE-CODE
00200 ITEM
00300 ENTERED-AS ALPHANUMERIC 4
00400 HELD-AS NUMERIC 4 CONTENTS RANGE 1000 TO 8000
07000 REPORTED-AS PICTURE '9999'
08000 ALIAS TOTAL 'EMPC'
09000 CATALOG 'EMPLOYEE', 'CODE'
09100 DESCRIPTION
10000 'STANDARD EMPLOYEE CODE'
10100 NOTE
10200 'INPUT FORM'
END OF PRINT

00100 PRINT OF EMPLOYEE-DEPARTMENT
00200 ITEM
00300 HELD-AS NUMERIC-CHARACTER 3 CONTENTS
00400 RANGE 100 TO 150
00500 ELSE IS 180
00600 ELSE RANGE 200 TO 900
00700 REPORTED-AS PICTURE '999'
07000 ENTERED-AS NUMERIC-CHARACTER 3
08000 ALIAS TOTAL 'EMPD'
09000 CATALOG 'EMPLOYEE', 'CODE'
09100 DESCRIPTION
END OF PRINT

00100 PRINT OF EMPLOYEE-HISTORY-DATA
00200 FILE TOTAL VARIABLE
00300 CONTAINS TRANSACTION-CODE, EMPLOYEE-HISTORY-RECORD, TRANSACTION-RECORD ELSE
00400 LEAVING-DATA IF TRANSACTION-CODE = '99'
00500 LINK EMPLOYEE-CODE TO EMPLOYEE-MASTER-DATA LINK-NAME 'L1'
00600 DEVICE 3340
00700 LOGICAL-BLOCKS-PER-TRACK 1
END OF PRINT

00100 PRINT OF EMPLOYEE-HISTORY-RECORD
00200 GROUP
00300 REPORTED-AS
00400 CONTAINS EMPLOYEE-CODE
00500 ALIAS TOTAL 'HREC'
00600 DESCRIPTION
END OF PRINT

00100 PRINT OF EMPLOYEE-IDENTIFICATION
00200 GROUP
00300 CONTAINS EMPLOYEE-NAME,
00400 EMPLOYEE-STREET,
00500 EMPLOYEE-TOWN,
00600 EMPLOYEE-TELEPHONE
07000 ALIAS TOTAL 'EMPI'
09000 DESCRIPTION
09100 'NAME, ADDRESS AND TELEPHONE NUMBER OF AN EMPLOYEE'
10000 NOTE
10100 'ACCURACY'
10200 ' NAME CHECKED AGAINST BIRTH CERTIFICATE'
10300 ' ADDRESS AND TELEPHONE NUMBER NOT CHECKED'
END OF PRINT

PRINT OF EMPLOYEE-MASTER-DATA

X400

```

00100 FILE TOTAL MASTER
00200 CONTAINS EMPLOYEE-CODE,
00300 EMPLOYEE-IDENTIFICATION,
00500 EMPLOYEE-SALARY,
00600 EDUCATION,
00700 EXPERIENCE,
00800 TAX-CODE,
00900 SOCIAL-SECURITY-CODE
01000 CONTROL EMPLOYEE-CODE
01100 LINKED-TO EMPLOYEE-HISTORY-DATA LINK-NAME 'L1'
01200 DEVICE 3340
01300 IOAREA 'EMP1'
01400 LOGICAL-BLOCKS-PER-TRACK 1
07000 ALIAS TOTAL 'EMPM'
END OF PRINT

```

```

PRINT OF EMPLOYEE-NAME
00100 ITEM
00200 HELD-AS CHARACTER 30
00300 REPORTED-AS PICTURE 'X(10)B(5)X(10)B(3)X(10)'
07000 ALIAS TOTAL 'EMPN'
08000 CATALOG 'EMPLOYEE', 'DESCRIPTION'
09000 DESCRIPTION
09100 'EMPLOYEE SURNAME, FIRST NAME AND MIDDLE NAME'
END OF PRINT

```

```

PRINT OF EMPLOYEE-SALARY
00100 ITEM
00200 HELD-AS NUMERIC 5 CONTENTS RANGE 10000 TO 50000
00300 REPORTED-AS PICTURE '£B99,999'
07000 ALIAS TOTAL 'EMPY'
08000 CATALOG 'SALARY', 'NUMERIC'
09000 DESCRIPTION
09100 'YEARLY SALARY. INCLUDES GEOGRAPHICAL ALLOWANCES'
END OF PRINT

```

```

PRINT OF EMPLOYEE-STREET
00100 ITEM
00200 DEFAULTED-AS CHARACTER 40
07000 ALIAS TOTAL 'EMPS'
08000 CATALOG 'EMPLOYEE', 'DESCRIPTION'
09000 DESCRIPTION
09100 'EMPLOYEE STREET NAME INCLUDING ANY APARTMENT NUMBER'
END OF PRINT

```

```

PRINT OF EMPLOYEE-TELEPHONE
00100 ITEM
00200 HELD-AS NUMERIC 10
00300 REPORTED-AS PICTURE '999BB999B9999'
07000 ALIAS TOTAL 'EMPE'
08000 CATALOG 'EMPLOYEE', 'DESCRIPTION'
09000 DESCRIPTION
09100 'EMPLOYEE TELEPHONE NUMBER INCLUDING CODE'
END OF PRINT

```

```

PRINT OF EMPLOYEE-TOWN
00100 ITEM
00200 DEFAULTED-AS CHARACTER 20
07000 ALIAS TOTAL 'EMPT'
08000 CATALOG 'EMPLOYEE', 'DESCRIPTION'
09000 DESCRIPTION
09100 'EMPLOYEE HOME TOWN NAME AND POST CODE'
END OF PRINT

```

```

PRINT OF EMPLOYING-COMPANY
00100 ITEM
00200 DEFAULTED-AS CHARACTER 30
07000 ALIAS TOTAL 'EMNY'
08000 CATALOG 'EMPLOYEE', 'DESCRIPTION'
09000 DESCRIPTION
09100 'NAME OF OUTSIDE COMPANY OR INTERNAL DEPARTMENT OF THIS ORGANISATION'
END OF PRINT

```

```

PRINT OF EXPERIENCE
00100 GROUP
00200 CONTAINS EMPLOYING-COMPANY,
00300 EXPERIENCE-CODE,
00400 EXPERIENCE-YRS
07000 ALIAS TOTAL 'EEXP'
09000 DESCRIPTION
09100 'EXPERIENCE GAINED (INCLUDING EXPERIENCE GAINED WITHIN THIS ORGANISATION)'
10000 NOTE
10100 'ACCURACY'
10200 'REFERENCES OBTAINED FROM LAST TWO'
10300 'EMPLOYING ORGANISATIONS'
END OF PRINT

```

X400

```

00100 PRINT OF EXPERIENCE-CODE
00200 ITEM
07000 DEFAULTED-AS NUMERIC 2 CONTENTS RANGE 01 TO 99
08000 ALIAS TOTAL 'EMCY'
09000 CATALOG 'EMPLOYEE', 'CODE'
09100 DESCRIPTION
      'EXPERIENCE CODE TAKEN FROM STANDARD CODING BOOK'
      END OF PRINT

```

```

00100 PRINT OF EXPERIENCE-YRS
00200 ITEM
00300 DEFAULTED-AS NUMERIC 4 CONTENTS
00400 RANGE 01 TO 10
00500 ELSE RANGE 01 TO 15
07000 IF EMPLOYEE-DEPARTMENT EQ 180
08000 ALIAS TOTAL 'EXPY'
09000 CATALOG 'EMPLOYEE', 'NUMERIC'
09100 DESCRIPTION
      'NUMBER OF YEARS EXPERIENCE'
      END OF PRINT

```

```

00100 PRINT OF LEAVING-DATA
00200 ITEM
00300 ENTERED-AS CHARACTER 60
07000 HELD-AS CHARACTER 60
08000 ALIAS TOTAL 'LETA'
09000 CATALOG 'EMPLOYEE', 'DESCRIPTION'
09100 DESCRIPTION
      'LEAVING DATA INPUT VIA V.D.U.'
10000 NOTE
10100 'INPUT FORM'
10200 'EMPLOYEE-LEAVING-FORM'
20000 ACCESS-AUTHORITY
20100 'ACCOUNTS' READ-ONLY,
20200 'AUDITOR' READ-ONLY,
20300 'PERSONNEL' UPDATE,
20400 'PERSONNEL-MANAGER' SECURITY-CONTROL
23000 FREQUENCY WEEKLY
25000 SECURITY-CLASSIFICATION 'CONFIDENTIAL'
      END OF PRINT

```

```

00100 PRINT OF QUALIFICATIONS
00200 ITEM
07000 DEFAULTED-AS CHARACTER 10
08000 ALIAS TOTAL 'QUNS'
09000 CATALOG 'EMPLOYEE', 'DESCRIPTION'
09100 DESCRIPTION
      'QUALIFICATION OBTAINED AND DATE OF CERTIFICATE (SHOWN AS MM/YY)'
      END OF PRINT

```

```

00100 PRINT OF SOCIAL-SECURITY-CODE
00200 ITEM
00300 ENTERED-AS 1 ALPHANUMERIC 15
00400 ENTERED-AS 2 CHARACTER 15
00500 HELD-AS ALPHANUMERIC 15
07000 REPORTED-AS PICTURE 'XXXBX(5)B999BXXXX'
      ALIAS TOTAL 'SOSC'

```

```

08000 CATALOG 'SALARY', 'CODE'
09000 DESCRIPTION
09100 'CURRENT EMPLOYEE SOCIAL SECURITY CODE'
      END OF PRINT

```

```

00100 PRINT OF STANDARD-DATE
00200 ITEM
00300 ENTERED-AS CHARACTER 8 CONTENTS FORMAT 'DD/MM/YY'
00400 HELD-AS NUMERIC-CHARACTER 6
07000 REPORTED-AS PICTURE '99X99X99' CONTENTS FORMAT 'DD/MM/YY'
08000 ALIAS LOW-LEVEL 'STDAT'
09000 CATALOG 'EMPLOYEE', 'DATE'
09100 DESCRIPTION
      'PERSONNEL STANDARD DATE FORMATS'
      END OF PRINT

```

```

00100 PRINT OF TAX-CODE
00200 ITEM
00300 DEFAULTED-AS NUMERIC 4 CONTENTS IS 538
00400 ELSE IS 670
00500 ELSE RANGE 1000 TO 6000
07000 ALIAS TOTAL 'TAXC'
08000 CATALOG 'SALARY', 'CODE'
09000 DESCRIPTION
09100 'EMPLOYEE TAX CODE SENT BY TAX OFFICE'
10000 NOTE
10100 'ACCURACY'
10200 'TAX CODE IS ONE MONTH OUT OF DATE'

```


X400

END OF PRINT

PRINT OF TRANSACTION-CODE
00100 ITEM
00200 ENTERED-AS CHARACTER 2
00300 HELD-AS NUMERIC 2 CONTENTS RANGE 10 TO 90
00400 REPORTED-AS PICTURE '99'
00500 ALIAS TOTAL 'CODE'
00600 CATALOG 'EMPLOYEE', 'CODE'
00700 DESCRIPTION
00800 'EMPLOYEE TRANSACTION CODE'
END OF PRINT

PRINT OF TRANSACTION-DATA
00100 ITEM
00200 ENTERED-AS CHARACTER 40
00300 HELD-AS CHARACTER 40
07000 ALIAS TOTAL 'TRTA'
08000 CATALOG 'EMPLOYEE', 'DESCRIPTION', 'NUMERIC'
09000 DESCRIPTION
09100 'TRANSACTION DATA INPUT VIA V.D.U.'
10000 NOTE
10100 'INPUT FORM'
10200 'EMPLOYEE-TRANSACTIONS-FORM'
10300 ' '
10400 'ACCURACY'
10500 'PERSONNEL DEPARTMENT IS RESPONSIBLE'
10600 'FOR ENSURING THAT DATA IS COMPLETELY'
10700 'CORRECT'
END OF PRINT

PRINT OF TRANSACTION-DATE
00100 ITEM
00200 ENTERED-AS NAME STANDARD-DATE
00300 HELD-AS NAME STANDARD-DATE
00400 REPORTED-AS NAME STANDARD-DATE
07000 ALIAS TOTAL 'TRTE'
08000 CATALOG 'EMPLOYEE', 'DATE'
09000 DESCRIPTION
09100 'EMPLOYEE TRANSACTION DATE'
10000 NOTE
10100 'ACCURACY'
10200 'DATE IS TAKEN FROM OPERATING SYSTEM'
10300 'SUPERVISOR AT THE TIME OF INPUT'
END OF PRINT

PRINT OF TRANSACTION-RECORD
00100 GROUP
00200 CONTAINS TRANSACTION-DATA,
00300 TRANSACTION-DATE
07000 ALIAS TOTAL 'TRRD'
09000 DESCRIPTION
09100 'EMPLOYEE HISTORY REPORT DATA'
END OF PRINT

26 MEMBERS PROCESSED BY BULK PRINT

X400

00150 WHICH TOTAL-FILES CONSTITUTE EMPLOYEE-DATABASE.

Interrogation of TOTAL members.

THE FOLLOWING TOTAL FILES SATISFY THE GIVEN CRITERIA

TOTAL MASTER FILE	EMPLOYEE-MASTER-DATA
TOTAL VARIABLE FILE	EMPLOYEE-HISTORY-DATA

2 MEMBERS IN TOTAL

00151 WHICH FILE USES EMPLOYEE-CODE VIA LINK.

THE FOLLOWING SELECTED MEMBERS SATISFY THE GIVEN CRITERIA

TOTAL VARIABLE FILE	EMPLOYEE-HISTORY-DATA
TOTAL MASTER FILE	EMPLOYEE-MASTER-DATA

2 MEMBERS IN TOTAL

00152 REPORT EMPLOYEE-MASTER-DATA.

REPORT OF TOTAL MASTER FILE EMPLOYEE-MASTER-DATA

EDITION 6 ENCODED BY MASTER AT 13.51.46 ON 26 NOV 1981
STATUS TOT
PROTECTION: NONE

ALIAS
TOTAL EMPM

THIS MEMBER IS DIRECTLY REFERRED TO 2 TIMES
THIS MEMBER CONTAINS 9 DIRECT REFERENCES

TOTAL MASTER FILE EMPLOYEE-MASTER-DATA

TYPE IS TOTAL MASTER
DEVICE 3340
LOGICAL-BLOCKS-PER-TRACK 1
IOAREA 'EMP1'

CONTROL EMPLOYEE-CODE
LINKED-TO EMPLOYEE-HISTORY-DATA LINK-NAME 'L1'

CONTAINS
ITEM EMPLOYEE-CODE
GROUP EMPLOYEE-IDENTIFICATION
ITEM EMPLOYEE-SALARY
GROUP EDUCATION
GROUP EXPERIENCE
ITEM TAX-CODE
ITEM SOCIAL-SECURITY-CODE

X400

00153 PRODUCE TOTAL-4 FROM EMPLOYEE-DATABASE PRINT
00154 NOGEN WITH-ALIAS TOTAL.

Produce TOTAL/4.

```
BEGIN-DATA-BASE-GENERATION:
DATA-BASE-NAME=EMPDBS
SHARE-IO:
IOAREA=EMP1
BEGIN-MASTER-DATA-SET:
DATA-SET-NAME=EMPM
IOAREA=EMP1
MASTER-DATA:
EMPWROOT=8
EMPWCTRL=4
DM02366W EMP CONTROL FIELD - NAME HAS BEEN CHANGED
EMPMLKL1=8=EMPV
EMPMEMPI=100
EMPMEPN=(30)
EMPMEPS=(40)
EMPMEPT=(20)
EMPMEPE=(10)
EMPMEPY=5
EMPMEPON=40
EMPMEPOME=(30)
EMPMEPQUNS=(10)
EMPMEEXP=36
EMPMEPNY=(30)
EMPMEPCY=(2)
EMPMEXPY=(4)
EMPMTAXC=4
EMPMSOSC=15
END-DATA:
DEVICE=3340
LOGICAL-BLOCKS-PER-TRACK=1
END-MASTER-DATA-SET:
BEGIN-VARIABLE-ENTRY-DATA-SET:
DATA-SET-NAME=EMPV
BASE-DATA:
EMPVCODE=2
EMPVHREC=4
EMPVEMPC=4=EMPWCTRL
EMPMLKL1=8=EMPVEMPC
EMPVTRRD=60
EMPVTRTA=(40)
EMPVTRTE=(6)
EMPV0001=(14)
RECORD-CODE=99
EMPVLETA=(60)
END-DATA:
DEVICE=3340
LOGICAL-BLOCKS-PER-TRACK=1
END-VARIABLE-ENTRY-DATA-SET:
END-DATA-BASE-GENERATION:
```

DM02217I EMPLOYEE-DATABASE SUCCESSFULLY GENERATED

X400

00155 PRODUCE TOTAL-7 FROM EMPLOYEE-DATABASE PRINT
00156 WITH-ALIAS TOTAL NOGEN.

Produce TOTAL/7.

```
BEGIN-DATA-BASE-GENERATION:
DATA-BASE-NAME=EMPDBS
SHARE-IO:
IOAREA=EMP1
BEGIN-MASTER-DATA-SET:
DATA-SET-NAME=EMPM
IOAREA=EMP1
MASTER-DATA:
EMPWROOT=8
EMPWCTRL=4
DM02366W EMP CONTROL FIELD - NAME HAS BEEN CHANGED
EMPMLKL1=8
EMPWEMPPI=100
.2. EMPWEMPN=30
.2. EMPWEMPS=40
.2. EMPWEMPT=20
.2. EMPWEMPE=10
EMPWEMPY=5
EMPWEDON=40
.2. EMPWCOME=30
.2. EMPWQUNS=10
EMPWEEXP=36
.2. EMPWEMNY=30
.2. EMPWEMCY=2
.2. EMPWEXPY=4
EMPWTAXC=4
EMPWSOSC=15
END-DATA:
DEVICE=3340
LOGICAL-BLOCKS-PER-TRACK=1
END-MASTER-DATA-SET:
BEGIN-VARIABLE-ENTRY-DATA-SET:
DATA-SET-NAME=EMPV
BASE-DATA:
EMPVCODE=2
EMPVHREC=4
.2. EMPVEMPC=4
EMPMLKL1=8
EMPVTRRD=60
.2. EMPVTRTA=40
.2. EMPVTRTE=6
.2. EMPV0001=14
RECORD-CODE=99
.2. EMPVLETA=60
END-DATA:
DEVICE=3340
LOGICAL-BLOCKS-PER-TRACK=1
END-VARIABLE-ENTRY-DATA-SET:
END-DATA-BASE-GENERATION:
DM02217I EMPLOYEE-DATABASE SUCCESSFULLY GENERATED
```

X400

00157 PRODUCE TOTAL-8 FROM EMPLOYEE-DATABASE PRINT
00158 WITH-ALIAS TOTAL NOGEN.

Produce TOTAL/8.

```
BEGIN-DATA-BASE-GENERATION:
DATA-BASE-NAME=EMPOBS
SHARE-IO:
IOAREA=EMP1
BEGIN-MASTER-DATA-SET:
DATA-SET-NAME=EMPM
IOAREA=EMP1
MASTER-DATA:
EMPWROOT=8
EMPWCTRL=4
DM02366W EMP CONTROL FIELD - NAME HAS BEEN CHANGED
EMPMLKL1=8
EMPWEMPI=100
.2 EMPWEMPN=30
.2 EMPWEMPS=40
.2 EMPWEMPT=20
.2 EMPWEMPE=10
EMPWEMPY=5
EMPWEDON=40
.2 EMPWCOME=30
.2 EMPWQUNS=10
EMPWEEXP=36
.2 EMPWEMNY=30
.2 EMPWEMCY=2
.2 EMPWEXPY=4
EMPWTAXC=4
EMPWSOSC=15
END-DATA:
DEVICE=3340
LOGICAL-BLOCKS-PER-TRACK=1
END-MASTER-DATA-SET:
BEGIN-VARIABLE-ENTRY-DATA-SET:
DATA-SET-NAME=EMPV
BASE-DATA:
EMPVCODE=2
EMPVHREC=4
.2 EMPVEMPC=4=EMPWCTRL
EMPMLKL1=8=EMPVEMPC
EMPVTRRD=60
.2 EMPVTRTA=40
.2 EMPVTRTE=6
.2 *FILLER*=14
RECORD-CODE=99
EMPVLETA=60
END-DATA:
DEVICE=3340
LOGICAL-BLOCKS-PER-TRACK=1
END-VARIABLE-ENTRY-DATA-SET:
END-DATA-BASE-GENERATION:
DM02217I EMPLOYEE-DATABASE SUCCESSFULLY GENERATED
```


CHAPTER 5

DATAMANAGER/ADABAS DEMONSTRATION (X500)

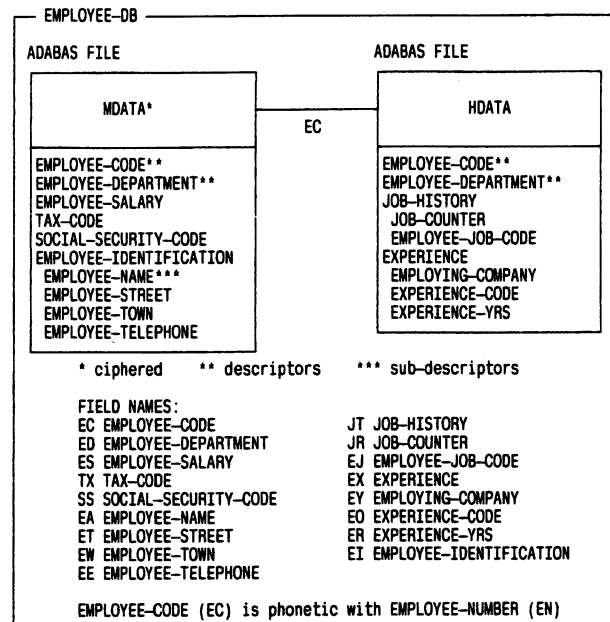
COMMANDS DEMONSTRATED

STATUS "ADA".
 AUTHORITY "ANALYST".
 LIST ADABAS-DATABASES.
 REPORT EMPLOYEE-DB.
 KEEP WHAT CONSTITUTES EMPLOYEE-DB.
 LIST KEPT-DATA ALPHABETICALLY.
 BULK PRINT KEPT-DATA ALPHABETICALLY.
 WHICH ADABAS-FILES CONSTITUTE EMPLOYEE-DB.
 REPORT MDATA.
 WHICH FILES USE EMPLOYEE-CODE VIA DESCRIPTORS.
 WHICH PROGRAMS USE MDATA.
 REPORT P9D01.
 PRODUCE ADABAS LOADER-DEFINITIONS FROM MDATA, HDATA
 NOGEN PRINT USING HELD-AS.
 PRODUCE ADABAS BUFFERS FROM EMPDAT USED-IN P9D01
 NOGEN PRINT.

DESCRIPTION

DATAMANAGER EXAMPLE DICTIONARY - ADABAS DATABASE SUPPLEMENT

To show the ADABAS database defined in the DATAMANAGER example dictionary in status ADA, and to show various forms of documentation and interrogation and source language generation outputs from it.



EMPLOYEE-DB is intended for simple demonstration only.

00161 STATUS "ADA".
 DM00096I NON-FROZEN STATUS ADA RECOGNISED

00162 AUTHORITY "ANALYST".
 DM01060I AUTHORITY RECOGNISED

00163 LIST ADABAS-DATABASES.

LIST OF ADABAS DATABASES	MEMBER NAME	TYPE	USAGE	CONDITION	AC	ALT	REM	OWNER
EMPLOYEE-DB		ADABAS DB	0	SCE	ENC	YES	YES	YES
LIST CONTAINS	1	ADABAS DATABASE						

X500

00164 REPORT EMPLOYEE-DB.

Report EMPLOYEE-DB.

REPORT OF ADABAS DATABASE EMPLOYEE-DB

EDITION 3 ENCODED BY PERSONNEL-MANAGER AT 12.23.40 ON 31 MAR 1980
STATUS ADA
PROTECTION: NONE

THIS MEMBER IS DIRECTLY REFERRED TO 0 TIMES
THIS MEMBER CONTAINS 7 DIRECT REFERENCES

ADABAS DATABASE EMPLOYEE-DB

DEVICE 3340

COUPLING OF FILES

HDATA TO
MDATA
BY EMPLOYEE-CODE

CIPHERING OF FILES

MDATA
BY CIPHER-CODE

CONTAINS FILES

1 MDATA
2 HDATA

X500

00165 KEEP WHAT CONSTITUTES EMPLOYEE-DB.
DM01541I 20 ENTRIES ADDED TO KEPT-DATA LIST

00166 LIST KEPT-DATA ALPHABETICALLY.

Produce a list of contained members

LIST OF SELECTED MEMBERS

MEMBER NAME	TYPE	USAGE	CONDITION	AC	ALT	REM	OWNER
CIPHER-CODE							PERSONNEL
EMPLOYEE-CODE	ITEM	16	SCE ENC YES YES				PERSONNEL
EMPLOYEE-DEPARTMENT	ITEM	11	SCE ENC YES YES				PERSONNEL
EMPLOYEE-IDENTIFICATION	GROUP	4	SCE ENC YES YES YES				
EMPLOYEE-JOB-CODE	ITEM	2	SCE ENC YES YES YES				
EMPLOYEE-NAME	ITEM	4	SCE ENC YES YES				PERSONNEL
EMPLOYEE-SALARY	ITEM	4	SCE ENC YES YES				PERSONNEL
EMPLOYEE-STREET	ITEM	2	SCE ENC YES YES YES				
EMPLOYEE-TELEPHONE	ITEM	2	SCE ENC YES YES YES				
EMPLOYEE-TOWN	ITEM	2	SCE ENC YES YES YES				
EMPLOYING-COMPANY	ITEM	2	SCE ENC YES YES YES				
EXPERIENCE	GROUP	4	SCE ENC YES YES YES				
EXPERIENCE-CODE	ITEM	2	SCE ENC YES YES YES				
EXPERIENCE-YRS	ITEM	2	SCE ENC YES YES YES				
HDATA	ADABAS FILE	3	SCE ENC YES YES YES				
JOB-COUNTER	ITEM	3	SCE ENC YES YES YES				
JOB-HISTORY	GROUP	2	SCE ENC YES YES YES				
MDATA	ADABAS FILE	5	SCE ENC YES YES YES				
SOCIAL-SECURITY-CODE	ITEM	5	SCE ENC YES YES				PERSONNEL
TAX-CODE	ITEM	4	SCE ENC YES YES				PERSONNEL

LIST CONTAINS

- 14 ITEMS
- 3 GROUPS
- 2 ADABAS FILES
- 19 MEMBERS IN TOTAL
- 1 MEMBER INACCESSIBLE TO THIS USER

X500

00167 BULK PRINT KEPT-DATA ALPHABETICALLY.

... and a print of contained members.

```

00100 PRINT OF EMPLOYEE-CODE
00200 ITEM
00300 ENTERED-AS ALPHANUMERIC 4
00400 HELD-AS NUMERIC NULL-SUPPRESSED 4
00500 CONTENTS RANGE 1000 TO 8000
00600 REPORTED-AS PICTURE '9999'
00700 ALIAS LOW-LEVEL 'EMPCODE'
00800 CATALOG 'EMPLOYEE', 'CODE'
00900 DESCRIPTION
01000 'STANDARD EMPLOYEE CODE'
01100 NOTE
01200 'INPUT FORM'
      'EMPLOYEE-TRANSACTIONS-FORM'
END OF PRINT

```

```

00100 PRINT OF EMPLOYEE-DEPARTMENT
00200 ITEM
00300 HELD-AS NUMERIC-CHARACTER NULL-SUPPRESSED 3
00400 CONTENTS RANGE 100 TO 150
00500 ELSE IS 180
00600 ELSE RANGE 200 TO 900
00700 REPORTED-AS PICTURE '999'
00800 ENTERED-AS NUMERIC-CHARACTER 3
00900 ALIAS LOW-LEVEL 'EMPDEPT'
01000 CATALOG 'EMPLOYEE', 'CODE'
01100 DESCRIPTION
      'EMPLOYEE DEPARTMENT CODE'
END OF PRINT

```

```

00100 PRINT OF EMPLOYEE-IDENTIFICATION
00150 GROUP
00200 HELD-AS
00300 CONTAINS EMPLOYEE-NAME,
00400 EMPLOYEE-STREET,
00500 EMPLOYEE-TOWN,
00600 EMPLOYEE-TELEPHONE
00700 ALIAS LOW-LEVEL 'EMPIDEN'
00800 DESCRIPTION
00900 'NAME, ADDRESS AND TELEPHONE NUMBER OF AN EMPLOYEE'
01000 NOTE
01100 'ACCURACY'
01200 'NAME CHECKED AGAINST BIRTH CERTIFICATE'
01300 'ADDRESS AND TELEPHONE NUMBER NOT CHECKED'
END OF PRINT

```

```

00100 PRINT OF EMPLOYEE-JOB-CODE
00200 ITEM
00300 REPORTED-AS PICTURE 'AAA'
00400 HELD-AS NUMERIC NULL-SUPPRESSED 3 CONTENTS
00500 RANGE 100 TO 109 CONDITION-NAME TRAINEE-TECH-OFFICER
00600 ELSE RANGE 110 TO 119 CONDITION-NAME JNR-TECH-OFFICER
00700 ELSE RANGE 120 TO 149 CONDITION-NAME SNR-TECH-OFFICER
00800 ALIAS LOW-LEVEL 'EMPJOB'
00900 DESCRIPTION
      'EMPLOYEE JOB TITLE CODE'
END OF PRINT

```

```

00100 PRINT OF EMPLOYEE-NAME
00200 ITEM
00300 HELD-AS CHARACTER 30
00400 REPORTED-AS PICTURE 'X(10)B(5)X(10)B(3)X(10)'
00500 ENTERED-AS CHARACTER 30
00600 ALIAS LOW-LEVEL 'EMPNAME'
00700 CATALOG 'EMPLOYEE', 'DESCRIPTION'
00800 DESCRIPTION
00900 'EMPLOYEE SURNAME, FIRST NAME AND MIDDLE NAME'
END OF PRINT

```

```

00100 PRINT OF EMPLOYEE-SALARY
00200 ITEM
00300 HELD-AS NUMERIC NULL-SUPPRESSED 5
00400 CONTENTS RANGE 10000 TO 50000
00500 REPORTED-AS PICTURE '£B99,999'
00600 ENTERED-AS NUMERIC 5
00700 ALIAS LOW-LEVEL 'EMPSAL'
00800 CATALOG 'SALARY', 'NUMERIC'
00900 DESCRIPTION
      'YEARLY SALARY. INCLUDES GEOGRAPHICAL ALLOWANCES'
END OF PRINT

```

```

00100 PRINT OF EMPLOYEE-STREET
00200 ITEM
00300 HELD-AS CHARACTER 40
00400 REPORTED-AS PICTURE 'X(40)'
00500 ENTERED-AS CHARACTER 40
00600 ALIAS LOW-LEVEL 'EMPSTR'

```

X500

```

08000 CATALOG 'EMPLOYEE', 'DESCRIPTION'
09000 DESCRIPTION
09100 'EMPLOYEE STREET NAME INCLUDING ANY APARTMENT NUMBER'
      END OF PRINT

      PRINT OF EMPLOYEE-TELEPHONE
00100 ITEM
00200 HELD-AS NUMERIC NULL-SUPPRESSED 10
00300 REPORTED-AS PICTURE '9998899989999'
00400 ENTERED-AS NUMERIC-CHARACTER 10
00500 ALIAS LOW-LEVEL 'EMPTELNO'
00600 CATALOG 'EMPLOYEE', 'DESCRIPTION'
00700 DESCRIPTION
00800 'EMPLOYEE TELEPHONE NUMBER INCLUDING CODE'
      END OF PRINT

      PRINT OF EMPLOYEE-TOWN
00100 ITEM
00200 HELD-AS CHARACTER 20
00300 ENTERED-AS CHARACTER 20
00400 REPORTED-AS PICTURE 'X(20)'
07000 ALIAS LOW-LEVEL 'EMPTOWN'
08000 CATALOG 'EMPLOYEE', 'DESCRIPTION'
09000 DESCRIPTION
09100 'EMPLOYEE HOME TOWN NAME AND POST CODE'
      END OF PRINT

      PRINT OF EMPLOYING-COMPANY
00100 ITEM
00200 ENTERED-AS CHARACTER 30
00300 HELD-AS CHARACTER 30
00400 REPORTED-AS PICTURE 'X(30)'
07000 ALIAS LOW-LEVEL 'EMPEMP'
08000 CATALOG 'EMPLOYEE', 'DESCRIPTION'
09000 DESCRIPTION
09100 'NAME OF OUTSIDE COMPANY OR INTERNAL DEPARTMENT OF THIS ORGANISATION'
      END OF PRINT

      PRINT OF EXPERIENCE
00100 GROUP
00150 HELD-AS
00200 CONTAINS EMPLOYING-COMPANY,
00300 EXPERIENCE-CODE,
00400 EXPERIENCE-YRS
07000 ALIAS LOW-LEVEL 'EMPEXP'
09000 DESCRIPTION
09100 'EXPERIENCE GAINED (INCLUDING EXPERIENCE GAINED WITHIN THIS ORGANISATION)'
10000 NOTE
10100 'ACCURACY'
10200 'REFERENCES OBTAINED FROM LAST TWO'
10300 'EMPLOYING ORGANISATIONS'
      END OF PRINT

      PRINT OF EXPERIENCE-CODE
00100 ITEM
00200 HELD-AS NUMERIC NULL-SUPPRESSED 2
00300 CONTENTS RANGE 01 TO 99
00400 ENTERED-AS NUMERIC-CHARACTER 2
00500 REPORTED-AS PICTURE '99'
00600 ALIAS LOW-LEVEL 'EMPOST'
00700 CATALOG 'EMPLOYEE', 'CODE'
00800 DESCRIPTION
00900 'EXPERIENCE CODE TAKEN FROM STANDARD CODING BOOK'
      END OF PRINT

      PRINT OF EXPERIENCE-YRS
00100 ITEM
00200 HELD-AS NUMERIC NULL-SUPPRESSED 2
00300 CONTENTS RANGE 01 TO 10
00400 ELSE RANGE 01 TO 15
00500 IF EMPLOYEE-DEPARTMENT EQ 180
00600 ENTERED-AS NUMERIC-CHARACTER 2
00700 REPORTED-AS PICTURE '99'
00800 ALIAS LOW-LEVEL 'EMPYRS'
00900 CATALOG 'EMPLOYEE', 'NUMERIC'
01000 DESCRIPTION
01100 'NUMBER OF YEARS EXPERIENCE'
      END OF PRINT

      PRINT OF HDATA
00100 FILE ADABAS
00200 CONTAINS EMPLOYEE-CODE,
00300 (1) EMPLOYEE-DEPARTMENT,
00400 JOB-HISTORY,
00500 (3) EXPERIENCE
00600 DESCRIPTORS EMPLOYEE-CODE, EMPLOYEE-DEPARTMENT UNIQUE
00700 SUB-DESCRIPTORS S1 IS EMPLOYEE-CODE BYTES 1 TO 2
00800 FIELD-NAMES

```

X500

```

00900      EC IS EMPLOYEE-CODE,
01000      EX IS EXPERIENCE,
01100      ED IS EMPLOYEE-DEPARTMENT,
01200      ER IS EXPERIENCE-YRS,
01300      JT IS JOB-HISTORY,
01400      JR IS JOB-COUNTER,
01500      EJ IS EMPLOYEE-JOB-CODE,
01600      EY IS EMPLOYING-COMPANY,
01700      EO IS EXPERIENCE-CODE
01800      PHONETIC-NAME EN IS EMPLOYEE-CODE
01900      DESCRIPTION
02000      'ADABAS EMPLOYEE-HISTORY FILE'
02100      NOTE
02200      'EMPLOYEE-NUMBER IS PHONETIC WITH EMPLOYEE-CODE'
          END OF PRINT

```

```

          PRINT OF JOB-COUNTER
00100      ITEM
00200      HELD-AS NUMERIC NULL-SUPPRESSED 1
00300      CONTENTS IS 3
          END OF PRINT

```

```

          PRINT OF JOB-HISTORY
00100      GROUP
00200      CONTAINS JOB-COUNTER,
00300      (JOB-COUNTER) EMPLOYEE-JOB-CODE
          END OF PRINT

```

```

          PRINT OF MDATA
00100      FILE ADABAS
00200      CONTAINS EMPLOYEE-CODE,
00300      EMPLOYEE-DEPARTMENT,
00400      EMPLOYEE-SALARY,
00500      TAX-CODE,
00600      SOCIAL-SECURITY-CODE,
00700      EMPLOYEE-IDENTIFICATION
00800      DESCRIPTORS EMPLOYEE-CODE, EMPLOYEE-DEPARTMENT
00900      SUB-DESCRIPTORS S2 IS EMPLOYEE-NAME BYTES 1 TO 5
01000      FIELD-NAMES
01100      EC IS EMPLOYEE-CODE,
01200      ED IS EMPLOYEE-DEPARTMENT,
01300      EA IS EMPLOYEE-NAME,
01400      SS IS SOCIAL-SECURITY-CODE,
01500      EI IS EMPLOYEE-IDENTIFICATION,
01600      ES IS EMPLOYEE-SALARY,
01700      TX IS TAX-CODE,
01800      ET IS EMPLOYEE-STREET,
01900      EW IS EMPLOYEE-TOWN,
02000      EE IS EMPLOYEE-TELEPHONE
02100      PHONETIC-NAMES EN IS EMPLOYEE-CODE
09000      DESCRIPTION
09100      'ADABAS EMPLOYEE-MASTER FILE'
10000      NOTE
10100      'EMPLOYEE-NUMBER IS PHONETIC WITH EMPLOYEE-CODE'
          END OF PRINT

```

PRINT OF SOCIAL-SECURITY-CODE

```

00100      ITEM
00200      ENTERED-AS 1 ALPHANUMERIC 15
00300      ENTERED-AS 2 CHARACTER 15
00400      HELD-AS ALPHANUMERIC 15
00500      REPORTED-AS PICTURE 'XXXBX(5)B999BXXXX'
07000      ALIAS LOW-LEVEL 'EMPSSC'
08000      CATALOG 'SALARY', 'CODE'
09000      DESCRIPTION
09100      'CURRENT EMPLOYEE SOCIAL SECURITY CODE'
          END OF PRINT

```

```

          PRINT OF TAX-CODE
00100      ITEM
00200      HELD-AS NUMERIC NULL-SUPPRESSED 4
00300      CONTENTS IS 538
00400      ELSE IS 670
00500      ELSE RANGE 1000 TO 6000
00600      ENTERED-AS NUMERIC-CHARACTER 4
00700      REPORTED-AS PICTURE '9999'
00800      ALIAS LOW-LEVEL 'EMPTAX'
00900      CATALOG 'SALARY', 'CODE'
01000      DESCRIPTION
01100      'EMPLOYEE TAX CODE SENT BY TAX OFFICE'
01200      NOTE
01300      'ACCURACY'
01400      'TAX CODE IS ONE MONTH OUT OF DATE'
          END OF PRINT

```

X500

19 MEMBERS PROCESSED BY BULK PRINT
1 MEMBERS INACCESSIBLE TO THIS USER

00168 WHICH ADABAS-FILES CONSTITUTE EMPLOYEE-DB.

Interrogation of ADABAS members.

THE FOLLOWING ADABAS FILES SATISFY THE GIVEN CRITERIA

ADABAS FILE	MDATA
ADABAS FILE	HDATA

2 MEMBERS IN TOTAL

00169 REPORT MDATA.

REPORT OF ADABAS FILE MDATA

EDITION 4 ENCODED BY MASTER AT 15.45.42 ON 25 NOV 1981
STATUS ADA
PROTECTION: NONE

DESCRIPTION
ADABAS EMPLOYEE-MASTER FILE

NOTE
EMPLOYEE-NUMBER IS PHONETIC WITH EMPLOYEE-CODE

THIS MEMBER IS DIRECTLY REFERRED TO 5 TIMES
THIS MEMBER CONTAINS 20 DIRECT REFERENCES

ADABAS FILE MDATA

TYPE IS ADABAS

DESCRIPTORS
EMPLOYEE-CODE
EMPLOYEE-DEPARTMENT

SUB-DESCRIPTORS
S2 EMPLOYEE-NAME BYTES 1 TO 5

PHONETIC ITEMS
EN EMPLOYEE-CODE

FIELD-NAMES
EC EMPLOYEE-CODE
ED EMPLOYEE-DEPARTMENT
EA EMPLOYEE-NAME
SS SOCIAL-SECURITY-CODE
EI EMPLOYEE-IDENTIFICATION
ES EMPLOYEE-SALARY
TX TAX-CODE
ET EMPLOYEE-STREET
EW EMPLOYEE-TOWN
EE EMPLOYEE-TELEPHONE

CONTAINS
ITEM EMPLOYEE-CODE
ITEM EMPLOYEE-DEPARTMENT
ITEM EMPLOYEE-SALARY
ITEM TAX-CODE
ITEM SOCIAL-SECURITY-CODE
GROUP EMPLOYEE-IDENTIFICATION

X500

00170 WHICH FILES USE EMPLOYEE-CODE VIA DESCRIPTORS.

Further interrogation.

THE FOLLOWING SELECTED MEMBERS SATISFY THE GIVEN CRITERIA

ADABAS FILE	HDATA
ADABAS FILE	MDATA

2 MEMBERS IN TOTAL

00171 WHICH PROGRAMS USE MDATA.

THE FOLLOWING PROGRAMS SATISFY THE GIVEN CRITERIA

PROGRAM	P9D01
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1 MEMBER IN TOTAL

00172 REPORT P9D01.

REPORT OF PROGRAM P9D01

EDITION 3 ENCODED BY MASTER AT 16.27.31 ON 18 JAN 1982
STATUS ADA
PROTECTION: NONE

THIS MEMBER IS DIRECTLY REFERRED TO 0 TIMES
THIS MEMBER CONTAINS 10 DIRECT REFERENCES

PROGRAM P9D01

LANGUAGE COBOL

PARAMETERS NO DATA

INPUTS NO DATA

OUTPUTS NO DATA

UPDATES NO DATA

PROCESSES ADABAS

ACCESS EMPFIN
ADABAS FILE MDATA
USING/GIVING
ITEM EMPLOYEE-CODE
THRU
ITEM SOCIAL-SECURITY-CODE

ACCESS EMPLOC
ADABAS FILE MDATA
USING/GIVING
ITEM EMPLOYEE-CODE
ITEM EMPLOYEE-DEPARTMENT
GROUP EMPLOYEE-IDENTIFICATION

ACCESS EMPDAT
ADABAS FILE HDATA
USING/GIVING
GROUP EXPERIENCE
OCCURRENCES 1 THRU 3
ITEM EMPLOYEE-DEPARTMENT

CALLS NO MEMBERS

CONTAINS NO MEMBERS

X500

00173 PRODUCE ADABAS LOADER-DEFINITIONS FROM MDATA, HDATA
00174 NOGEN PRINT USING HELD-AS.

Produce ADABAS LOADER-DEFINITIONS.

DM02614I 01, EC, 4, U, DE, NU EMPLOYEE-CODE 1
A CIPHER CONTROL CARD HAS BEEN PRODUCED
01, ED, 3, U, DE, NU EMPLOYEE-DEPARTMENT 2
01, ES, 5, U, NU EMPLOYEE-SALARY 3
01, TX, 4, U, NU TAX-CODE 4
01, SS, 15, A, FI SOCIAL-SECURITY-CODE 5
01, EI EMPLOYEE-IDENTIFICATION 6
02, EA, 30, A, FI EMPLOYEE-NAME 7
02, ET, 40, A, FI EMPLOYEE-STREET 8
02, EW, 20, A, FI EMPLOYEE-TOWN 9
02, EE, 10, U, NU EMPLOYEE-TELEPHONE 10
S2=EA(1, 5) 11
EN=PHON(EC) 12

DM02217I MDATA SUCCESSFULLY GENERATED

01, EC, 4, U, DE, NU EMPLOYEE-CODE 1
01, ED, 3, U, DE, UQ, NU, MU(1) EMPLOYEE-DEPARTMENT 2
01, JT JOB-HISTORY 3
02, JR, 1, U, NU JOB-COUNTER 4
02, EJ, 3, U, NU, MU EMPLOYEE-JOB-CODE 5
01, EX, PE(3) EXPERIENCE 6
02, EY, 30, A, FI EMPLOYING-COMPANY 7
02, EO, 2, U, NU EXPERIENCE-CODE 8
02, ER, 2, U, NU EXPERIENCE-YRS 9
S1=EC(1, 2) 10
EN=PHON(EC) 11

DM02217I HDATA SUCCESSFULLY GENERATED

00175 PRODUCE ADABAS BUFFERS FROM EMPDAT USED-IN P9D01
00176 NOGEN PRINT.

Produce ADABAS BUFFERS.

DM02641W NO OCCURRENCE INDEX SPECIFIED FOR ITEM EMPLOYEE-DEPARTMENT
DM02653W OCCURRENCE INDEX GENERATED FOR EMPLOYEE-DEPARTMENT
01 EMPDAT-FORMAT-BUFFER
02 EMPDAT-EXPERIENCE-FB PIC X(6)
VALUE "EX1-3, ".
02 EMPDAT-EMPLOYEE-DEPARTMENT-FB
PIC X(4)
VALUE "ED1, ".

DM02217I EMPDAT SUCCESSFULLY GENERATED
01 EMPDAT-RECORD-BUFFER
02 EMPDAT-EXPERIENCE-RB OCCURS 3 TIMES.
04 EMPDAT-EMPLOYING-COMPANY-RB
PIC X(30).
04 EMPDAT-EXPERIENCE-CODE-RB
PIC 99.
04 EMPDAT-EXPERIENCE-YRS-RB
PIC 99.
02 EMPDAT-EMPLOYEE-DEPARTMENT-RB
PIC 999.

DM02217I EMPDAT SUCCESSFULLY GENERATED

CHAPTER 6

DATAMANAGER/IMS DEMONSTRATION (X600)

COMMANDS DEMONSTRATED

AUTHORITY "ANALYST".
 STATUS "IMS".
 LIST IMS-DATABASES.
 REPORT EMPLOYEE-DATABASE-PHYSICAL.
 MODIFY EMPLOYEE-IDENT.
 170 CONCATENATED-KEY-NAME EMP-KEY

WHICH MEMBERS CONSTITUTE EMPLOYEE-IDENT
 VIA CONCATENATED-KEY-NAME.
 KEEP WHAT CONSTITUTES EMPLOYEE-DATABASE-PHYSICAL.
 LIST KEPT-DATA ALPHABETICALLY.
 BULK PRINT KEPT-DATA ALPHABETICALLY.
 WHICH SEGMENTS CONSTITUTE EMPLOYEE-DATABASE-PHYSICAL.
 REPORT EMPLOYEE-GENERAL.
 WHICH PCBs USE EMPLOYEE-DATABASE-PHYSICAL.
 MODIFY PCB-PERSONNEL.
 100 PCB STRUCTURE BY GET REPLACE

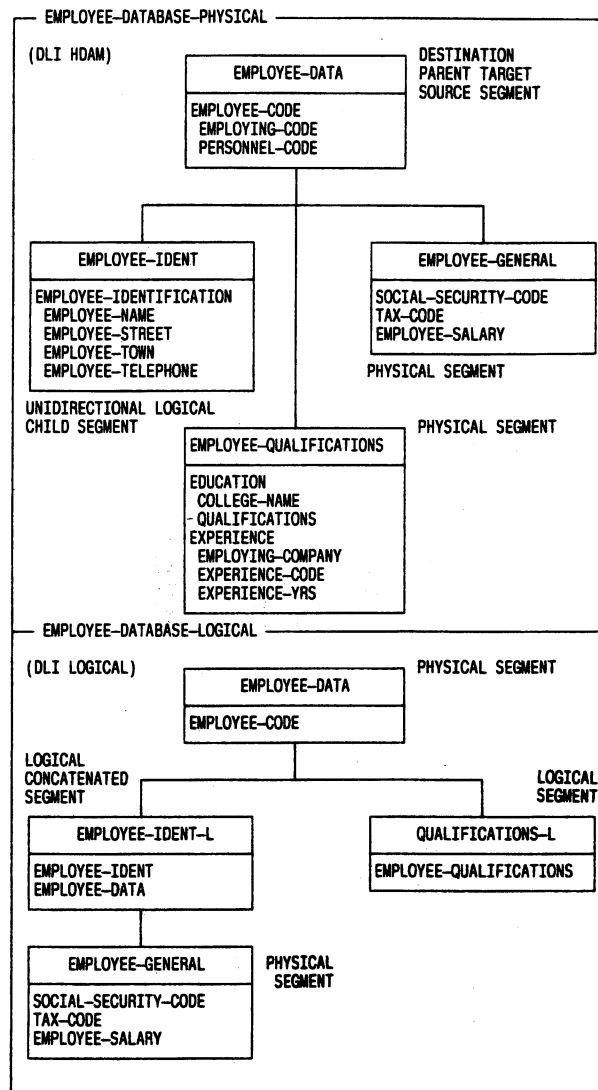
MODIFY PCB-DATA.
 200 BY UPDATE

REPORT PCB-PAYROLL.
 REPORT EMPLOYEE-DATABASE-LOGICAL.
 KEEP WHAT CONSTITUTES EMPLOYEE-DATABASE-LOGICAL.
 LIST KEPT-DATA ALPHABETICALLY.
 WHICH SEGMENTS CONSTITUTE EMPLOYEE-DATABASE-LOGICAL.
 REPORT EMPLOYEE-IDENT-L.
 WHICH PCBs USE EMPLOYEE-DATABASE-LOGICAL.
 PRODUCE COBOL USED-IN PCB-PERSONNEL FROM
 EMPLOYEE-IDENT, EMPLOYEE-GENERAL NOGEN
 PRINT GIVING DESCRIPTIONS.
 PRODUCE IMS DBDGEN SEARCH-FIELDS FROM
 EMPLOYEE-DATABASE-PHYSICAL AS EDP NOGEN
 PRINT WITH-ALIAS LOW-LEVEL.
 PRODUCE IMS DBDGEN ALL-FIELDS FROM
 EMPLOYEE-DATABASE-INDEX AS EDI NOGEN
 PRINT WITH-ALIAS LOW-LEVEL.
 PRODUCE IMS PSBGEN FROM PAYROLL NOGEN
 PRINT WITH-ALIAS LOW-LEVEL.

DESCRIPTION

DATAMANAGER EXAMPLE DICTIONARY - IMS DATABASE SUPPLEMENT

To show the IMS database defined in the DATAMANAGER example dictionary in status IMS, and to show various forms of interrogation and documentation and source language generation outputs from it.



EMPLOYEE-DATABASE-PHYSICAL is intended for simple demonstration only.

00179 STATUS "IMS".
 DMO0096I NON-FROZEN STATUS IMS RECOGNISED

00180 AUTHORITY "ANALYST".
 DMO1060I AUTHORITY RECOGNISED

00181 LIST IMS-DATABASES.

LIST OF DLI DATABASES

MEMBER NAME	TYPE	USAGE	CONDITION	AC	ALT	REM	OWNER
-------------	------	-------	-----------	----	-----	-----	-------

EMPLOYEE-DATABASE-INDEX	DL1 INDEX DB	0	SCE	ENC	YES	YES	YES
EMPLOYEE-DATABASE-LOGICAL	DL1 LOGCL DB	1	SCE	ENC	YES	YES	YES
EMPLOYEE-DATABASE-PHYSICAL	DL1 HDAM DB	2	SCE	ENC	YES	YES	YES

LIST CONTAINS 3 DLI DATABASES

X600

00182 REPORT EMPLOYEE-DATABASE-PHYSICAL.

Report EMPLOYEE-DATABASE-PHYSICAL.

REPORT OF DL1 HDAM DATABASE EMPLOYEE-DATABASE-PHYSICAL

EDITION 9 ENCODED BY ANALYST AT 15.39.24 ON 06 NOV 1981
STATUS IMS
PROTECTION: NONE

ALIAS
LOW-LEVEL EMPDBS

CATALOGUED AS
PHYSICAL DATABASE

DESCRIPTION
THIS PHYSICAL DATABASE DEFINES EMPLOYEE DATA.

THIS MEMBER IS DIRECTLY REFERRED TO 2 TIMES
THIS MEMBER CONTAINS 9 DIRECT REFERENCES

DL1 HDAM DATABASE EMPLOYEE-DATABASE-PHYSICAL

ACCESS

SUPPORTING ACCESS METHOD FOR DATABASE VSAM

RANDOMISING-MODULE GENLRMD

ANCHOR-POINTS 46

RELATIVE-BLOCK-MAXIMUM 60976

DATA SET GROUP

PRIME DDNAME EMPDD

DEVICE 3350

BLOCK SIZE 1024

SCAN CYLINDER LIMIT 3

CONTAINS PHYSICAL SEGMENTS

EMPLOYEE-DATA
EMPLOYEE-IDENT PARENT EMPLOYEE-DATA
EMPLOYEE-QUALIFICATIONS PARENT EMPLOYEE-DATA
EMPLOYEE-GENERAL PARENT EMPLOYEE-DATA

	00183	MODIFY EMPLOYEE-IDENT.
	00184	170 CONCATENATED-KEY-NAME EMP-KEY
	00185	
DMO1180I		ALTERATION HAS CREATED NEW SOURCE RECORD
DMO1296I		ENCODING OF EMPLOYEE-IDENT
	00100	SEGMENT PHYSICAL
	00150	RELATED-AS UNIDIRECTIONAL-CHILD-SEGMENT
	00160	TO EMPLOYEE-DATA
	00170	CONCATENATED-KEY-NAME EMP-KEY
DMO1826I		CONCATENATED-KEY EMP-KEY CREATED AS AN INTERNAL MEMBER
	00200	ATTRIBUTES
DMO0126W		DELETE RULE ENTRY MISSING OR INCOMPLETE
DMO1902W		LOGICAL RULE ASSUMED
DMO0126W		INSERT RULE ENTRY MISSING OR INCOMPLETE
DMO1902W		LOGICAL RULE ASSUMED
DMO0126W		REPLACE RULE ENTRY MISSING OR INCOMPLETE
DMO1902W		VIRTUAL RULE ASSUMED
	00300	CONTAINS EMPLOYEE-IDENTIFICATION
	00400	SEQUENCE-KEY EMPLOYEE-NAME UNIQUELY
	00500	POINTERS SINGLE
	00600	GENERATES EMPLOYEE-NAME IN EMPLOYEE-IDENTIFICATION
	07000	ALIAS LOW-LEVEL 'EMPENT'
	08000	CATALOG 'PHYSICAL SEGMENT'
	09000	DESCRIPTION
	09100	'THIS PHYSICAL SEGMENT CONTAINS EMPLOYEE IDENTIFICATION.'
DMO1280I		EMPLOYEE-IDENT SUCCESSFULLY ENCODED

Let us add a new keyword to the
EMPLOYEE-IDENT definition, if not
already present in the definition.

00186 WHICH MEMBERS CONSTITUTE EMPLOYEE-IDENT
00187 VIA CONCATENATED-KEY-NAME.

This new keyword can be used when
interrogating the dictionary using
the WHAT and WHICH commands.

THE FOLLOWING SELECTED MEMBERS SATISFY THE GIVEN CRITERIA

CONCATENATED-KEY	EMP-KEY
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1 MEMBER IN TOTAL

X600

00188 KEEP WHAT CONSTITUTES EMPLOYEE-DATABASE-PHYSICAL.
DM015411 28 ENTRIES ADDED TO KEPT-DATA LIST

Produce a list of contained members

00189 LIST KEPT-DATA ALPHABETICALLY.

LIST OF SELECTED MEMBERS

MEMBER NAME	TYPE	USAGE	CONDITION	AC	ALT	REM	OWNER
CK001	SYS REL FLD	2	DMR	YES	YES	YES	
COLLEGE-NAME	ITEM	2	SCE	ENC	YES	YES	YES
EDUCATION	GROUP	2	SCE	ENC	YES	YES	YES
EMP-KEY	CONC-KEY	1	DMR	YES	YES	YES	
EMPDD	DL1 DATASET	1	DMR	YES	YES	YES	
EMPLOYEE-CODE	GROUP	5	SCE	ENC	YES	YES	PERSONNEL
EMPLOYEE-DATA	DST/SRC/TARG	13	SCE	ENC	YES	YES	YES
EMPLOYEE-DEPARTMENT	ITEM	3	SCE	ENC	YES	YES	PERSONNEL
EMPLOYEE-GENERAL	PHYSICAL SEG	7	SCE	ENC	YES	YES	YES
EMPLOYEE-IDENT	UNID L.CHILD	4	SCE	ENC	YES	YES	YES
EMPLOYEE-IDENTIFICATION	GROUP	3	SCE	ENC	YES	YES	YES
EMPLOYEE-NAME	ITEM	5	SCE	ENC	YES	YES	PERSONNEL
EMPLOYEE-QUALIFICATIONS	PHYSICAL SEG	5	SCE	ENC	YES	YES	YES
EMPLOYEE-SALARY	ITEM	4	SCE	ENC	YES	YES	PERSONNEL
EMPLOYEE-STREET	ITEM	1	SCE	ENC	YES	YES	YES
EMPLOYEE-TELEPHONE	ITEM	1	SCE	ENC	YES	YES	YES
EMPLOYEE-TOWN	ITEM	2	SCE	ENC	YES	YES	YES
EMPLOYING-CODE	ITEM	3	SCE	ENC	YES	YES	YES
EMPLOYING-COMPANY	ITEM	2	SCE	ENC	YES	YES	YES
EXPERIENCE	GROUP	3	SCE	ENC	YES	YES	YES
EXPERIENCE-CODE	ITEM	1	SCE	ENC	YES	YES	YES
EXPERIENCE-YRS	ITEM	1	SCE	ENC	YES	YES	YES
GENLRMD	MODULE	1	SCE	ENC	YES	YES	YES
PERSONNEL-CODE	ITEM	3	SCE	ENC	YES	YES	YES
QUALIFICATIONS	ITEM	1	SCE	ENC	YES	YES	YES
SOCIAL-SECURITY-CODE	ITEM	5	SCE	ENC	YES	YES	PERSONNEL
SX001	SYS REL FLD	3	DMR	YES	YES	YES	
TAX-CODE	ITEM	3	SCE	ENC	YES	YES	PERSONNEL

LIST CONTAINS

15 ITEMS
4 GROUPS
2 SYSTEM RELATED FIELDS
1 CONCATENATED-KEY
4 SEGMENTS
1 DL1 DATASET
1 MODULE
28 MEMBERS IN TOTAL

X600

00190 BULK PRINT KEPT-DATA ALPHABETICALLY.

... and a print of contained members.

00100 PRINT OF COLLEGE-NAME
00200 ITEM
00300 HELD-AS CHARACTER 30
00400 REPORTED-AS PICTURE "X(30)"
00500 ENTERED-AS CHARACTER 30
00600 ALIAS LOW-LEVEL 'EMPCOL'
00700 CATALOG 'EMPLOYEE', 'DESCRIPTION'
00800 DESCRIPTION
00900 'NAME OF COLLEGE/FACULTY'
01000 END OF PRINT

00100 PRINT OF EDUCATION
00200 GROUP
00300 HELD-AS
00400 CONTAINS COLLEGE-NAME,
00500 QUALIFICATIONS
00600 ALIAS LOW-LEVEL 'EMPEDU'
00700 DESCRIPTION
00800 'EDUCATION RECEIVED BY EMPLOYEE INCLUDING PROFESSIONAL TRAINING'
00900 NOTE
01000 'ACCURACY'
01100 ' ALL COLLEGE CERTIFICATES CHECKED'
01200 ' AND REFERENCES OBTAINED'
01300 END OF PRINT

00100 PRINT OF EMPLOYEE-CODE
00200 GROUP
00300 HELD-AS
00400 CONTAINS EMPLOYING-CODE,
00500 PERSONNEL-CODE
00600 ALIAS LOW-LEVEL 'EMPCODE'
00700 CATALOG 'EMPLOYEE', 'CODE'
00800 DESCRIPTION
00900 'STANDARD EMPLOYEE CODE'
01000 END OF PRINT

00100 PRINT OF EMPLOYEE-DATA
00200 SEGMENT PHYSICAL
00300 RELATED-AS DESTINATION-PARENT-SEGMENT
00400 TARGET-SEGMENT SOURCE-SEGMENT
00500 CONCATENATED-KEY-FIELD PERSONNEL-CODE AS CK001
00600 UNIQUE-KEY-FIELD SX001
00700 ATTRIBUTES
00800 CONTAINS EMPLOYEE-CODE
00900 SEQUENCE-KEY EMPLOYEE-CODE
01000 POINTERS SINGLE
01100 ALIAS LOW-LEVEL 'EMPLDATA'
01200 CATALOG 'PHYSICAL SEGMENT'
01300 DESCRIPTION
01400 'THIS PHYSICAL SEGMENT IS THE ROOT SEGMENT OF EMPDBS.'
01500 END OF PRINT

00100 PRINT OF EMPLOYEE-DEPARTMENT
00200 ITEM
00300 HELD-AS NUMERIC-CHARACTER 3 CONTENTS
00400 RANGE 100 TO 150
00500 ELSE IS 180
00600 ELSE RANGE 200 TO 900
00700 REPORTED-AS PICTURE '999'
00800 ENTERED-AS NUMERIC-CHARACTER 3
00900 ALIAS LOW-LEVEL 'EMPDEPT'
01000 CATALOG 'EMPLOYEE', 'CODE'
01100 DESCRIPTION
01200 'EMPLOYEE DEPARTMENT CODE'
01300 END OF PRINT

00100 PRINT OF EMPLOYEE-GENERAL
00200 SEGMENT PHYSICAL
00300 ATTRIBUTES
00400 CONTAINS SOCIAL-SECURITY-CODE,
00500 TAX-CODE,
00600 EMPLOYEE-SALARY
00700 SEQUENCE-KEY SOCIAL-SECURITY-CODE UNIQUELY
00800 POINTERS SINGLE
00900 GENERATES EMPLOYEE-SALARY
01000 ALIAS LOW-LEVEL 'EMPRAL'
01100 CATALOG 'PHYSICAL SEGMENT'
01200 DESCRIPTION
01300 'THIS PHYSICAL SEGMENT CONTAINS EMPLOYEE GENERAL DATA.'
01400 END OF PRINT

00100 PRINT OF EMPLOYEE-IDENT
00200 SEGMENT PHYSICAL
00300 RELATED-AS UNIDIRECTIONAL-CHILD-SEGMENT
00400 TO EMPLOYEE-DATA
00500 CONCATENATED-KEY-NAME EMP-KEY

X600

00200 ATTRIBUTES
00300 CONTAINS EMPLOYEE-IDENTIFICATION
00400 SEQUENCE-KEY EMPLOYEE-NAME UNIQUELY
00500 POINTERS SINGLE
00600 GENERATES EMPLOYEE-NAME IN EMPLOYEE-IDENTIFICATION
07000 ALIAS LOW-LEVEL 'EMPENT'
08000 CATALOG 'PHYSICAL SEGMENT'
09000 DESCRIPTION
09100 'THIS PHYSICAL SEGMENT CONTAINS EMPLOYEE IDENTIFICATION.'
END OF PRINT

PRINT OF EMPLOYEE-IDENTIFICATION
00100 GROUP
00150 HELD-AS
00200 CONTAINS EMPLOYEE-NAME,
00300 EMPLOYEE-STREET,
00400 EMPLOYEE-TOWN,
00500 EMPLOYEE-TELEPHONE
07000 ALIAS LOW-LEVEL 'EMPIDEN'
09000 DESCRIPTION
09100 'NAME, ADDRESS AND TELEPHONE NUMBER OF AN EMPLOYEE'
10000 NOTE
10100 'ACCURACY'
10200 'NAME CHECKED AGAINST BIRTH CERTIFICATE'
10300 'ADDRESS AND TELEPHONE NUMBER NOT CHECKED'
END OF PRINT

PRINT OF EMPLOYEE-NAME
00100 ITEM
00200 HELD-AS CHARACTER 30
00300 REPORTED-AS PICTURE 'X(10)B(5)X(10)B(3)X(10)'
00400 ENTERED-AS CHARACTER 30
00500 ALIAS LOW-LEVEL 'EMPNAME',IMS 'IMS','NONSPEC'
00600 CATALOG 'EMPLOYEE','DESCRIPTION'
00700 DESCRIPTION
00800 'EMPLOYEE SURNAME, FIRST NAME AND MIDDLE NAME'
END OF PRINT

PRINT OF EMPLOYEE-QUALIFICATIONS
00100 SEGMENT PHYSICAL
00200 ATTRIBUTES
00300 CONTAINS EDUCATION,
00400 EXPERIENCE
00500 SEQUENCE-KEY COLLEGE-NAME UNIQUELY
00600 POINTERS SINGLE
00700 GENERATES EMPLOYING-COMPANY IN EXPERIENCE
07000 ALIAS LOW-LEVEL 'EMPLIONS'
08000 CATALOG 'PHYSICAL SEGMENT'
END OF PRINT

PRINT OF EMPLOYEE-SALARY
00100 ITEM
00200 HELD-AS NUMERIC 5 CONTENTS RANGE 10000 TO 50000
00300 REPORTED-AS PICTURE 'EB99,999'
00400 ENTERED-AS NUMERIC 5
07000 ALIAS LOW-LEVEL 'EMPSAL'
08000 CATALOG 'SALARY','NUMERIC'
09000 DESCRIPTION
09100 'YEARLY SALARY. INCLUDES GEOGRAPHICAL ALLOWANCES'
END OF PRINT

PRINT OF EMPLOYEE-STREET
00100 ITEM
00200 HELD-AS CHARACTER 40
00300 REPORTED-AS PICTURE 'X(40)'
00400 ENTERED-AS CHARACTER 40
07000 ALIAS LOW-LEVEL 'EMPSTR'
08000 CATALOG 'EMPLOYEE','DESCRIPTION'
09000 DESCRIPTION
09100 'EMPLOYEE STREET NAME INCLUDING ANY APARTMENT NUMBER'
END OF PRINT

PRINT OF EMPLOYEE-TELEPHONE
00100 ITEM
00200 HELD-AS NUMERIC 10
00300 REPORTED-AS PICTURE '9998899989999'
00400 ENTERED-AS NUMERIC-CHARACTER 10
07000 ALIAS LOW-LEVEL 'EMPTLNO'
08000 CATALOG 'EMPLOYEE','DESCRIPTION'
09000 DESCRIPTION
09100 'EMPLOYEE TELEPHONE NUMBER INCLUDING CODE'
END OF PRINT

PRINT OF EMPLOYEE-TOWN
00100 ITEM
00200 HELD-AS CHARACTER 20
00300 ENTERED-AS CHARACTER 20
00400 REPORTED-AS PICTURE 'X(20)'

X600

00500 ALIAS LOW-LEVEL 'EMPTOWN',IMS 'IMS','NONSPEC'
00600 CATALOG 'EMPLOYEE','DESCRIPTION'
00700 DESCRIPTION
00800 'EMPLOYEE HOME TOWN NAME AND POST CODE'
END OF PRINT

PRINT OF EMPLOYING-CODE
00100 ITEM
00200 ENTERED-AS ALPHANUMERIC 4
00300 HELD-AS NUMERIC 4 CONTENTS RANGE 1000 TO 8000
00400 REPORTED-AS PICTURE '9999'
00500 ALIAS LOW-LEVEL 'EMPLCODE'
00600 CATALOG 'CODE'
END OF PRINT

PRINT OF EMPLOYING-COMPANY
00100 ITEM
00200 ENTERED-AS CHARACTER 30
00300 HELD-AS CHARACTER 30
00400 REPORTED-AS PICTURE 'X(30)'
07000 ALIAS LOW-LEVEL 'EMPEMP'
08000 CATALOG 'EMPLOYEE','DESCRIPTION'
09000 DESCRIPTION
09100 'NAME OF OUTSIDE COMPANY OR INTERNAL DEPARTMENT OF THIS ORGANISATION'
END OF PRINT

PRINT OF EXPERIENCE
00100 GROUP
00150 HELD-AS
00200 CONTAINS EMPLOYING-COMPANY,
00300 EXPERIENCE-CODE,
00400 EXPERIENCE-YRS
07000 ALIAS LOW-LEVEL 'EMPEXP'
09000 DESCRIPTION
09100 'EXPERIENCE GAINED (INCLUDING EXPERIENCE GAINED WITHIN THIS ORGANISATION)'
10000 NOTE
10100 'ACCURACY'
10200 'REFERENCES OBTAINED FROM LAST TWO'
10300 'EMPLOYING ORGANISATIONS'
END OF PRINT

PRINT OF EXPERIENCE-CODE
00100 ITEM
00200 HELD-AS NUMERIC 2 CONTENTS RANGE 01 TO 99
00300 ENTERED-AS NUMERIC-CHARACTER 2
00400 REPORTED-AS PICTURE '99'
07000 ALIAS LOW-LEVEL 'EMPOST'
08000 CATALOG 'EMPLOYEE','CODE'
09000 DESCRIPTION
09100 'EXPERIENCE CODE TAKEN FROM STANDARD CODING BOOK'
END OF PRINT

PRINT OF EXPERIENCE-YRS
00100 ITEM
00200 HELD-AS NUMERIC 2 CONTENTS
00300 RANGE 01 TO 10

00400 ELSE RANGE 01 TO 15
00500 IF EMPLOYEE-DEPARTMENT EQ 180
00600 ENTERED-AS NUMERIC-CHARACTER 2
00700 REPORTED-AS PICTURE '99'
07000 ALIAS LOW-LEVEL 'EMPYRS'
08000 CATALOG 'EMPLOYEE','NUMERIC'
09000 DESCRIPTION
09100 'NUMBER OF YEARS EXPERIENCE'
END OF PRINT

PRINT OF GENLRMD
00100 MODULE
00200 LANGUAGE 'COBOL'
00300 ALIAS 'GENERAL-RANDOMIZING-MODULE'
00400 CATALOG 'COBOL'
00500 DESCRIPTION
00600 'EMPLOYEE-DATABASE-PHYSICAL RANDOMIZING MODULE'
END OF PRINT

PRINT OF PERSONNEL-CODE
00100 ITEM
00200 ENTERED-AS ALPHANUMERIC 4
00300 HELD-AS NUMERIC 4 CONTENTS RANGE 1000 TO 8000
00400 REPORTED-AS PICTURE '9999'
00500 ALIAS LOW-LEVEL 'PRSNCODE'
00600 CATALOG 'CODE'
END OF PRINT

X600

PRINT OF QUALIFICATIONS
00100 ITEM
00200 HELD-AS CHARACTER 10
00300 ENTERED-AS CHARACTER 10
00400 REPORTED-AS PICTURE "X(10)"
07000 ALIAS LOW-LEVEL 'EMPQUA'
08000 CATALOG 'EMPLOYEE', 'DESCRIPTION'
09000 DESCRIPTION
09100 'QUALIFICATION OBTAINED AND DATE OF CERTIFICATE (SHOWN AS MM/YY)'
END OF PRINT

PRINT OF SOCIAL-SECURITY-CODE
00100 ITEM
00200 ENTERED-AS 1 ALPHANUMERIC 15
00300 ENTERED-AS 2 CHARACTER 15
00400 HELD-AS ALPHANUMERIC 15
00500 REPORTED-AS PICTURE 'XXXBX(5)B999BXXXX'
07000 ALIAS LOW-LEVEL 'EMPSSC'
08000 CATALOG 'SALARY', 'CODE'
09000 DESCRIPTION
09100 'CURRENT EMPLOYEE SOCIAL SECURITY CODE'
END OF PRINT

PRINT OF TAX-CODE
00100 ITEM
00200 HELD-AS NUMERIC 4 CONTENTS IS 538
00300 ELSE IS 670
00400 ELSE RANGE 1000 TO 6000
00500 ENTERED-AS NUMERIC-CHARACTER 4
00600 REPORTED-AS PICTURE '9999'
07000 ALIAS LOW-LEVEL 'EMPTAX'
08000 CATALOG 'SALARY', 'CODE'
09000 DESCRIPTION
09100 'EMPLOYEE TAX CODE SENT BY TAX OFFICE'
10000 NOTE
10100 'ACCURACY'
10200 'TAX CODE IS ONE MONTH OUT OF DATE'
END OF PRINT

24 MEMBERS PROCESSED BY BULK PRINT

00191 WHICH SEGMENTS CONSTITUTE EMPLOYEE-DATABASE-PHYSICAL.

Interrogation on IMS segments.

THE FOLLOWING SEGMENTS SATISFY THE GIVEN CRITERIA

PHYSICAL SEGMENT	EMPLOYEE-DATA
PHYSICAL SEGMENT	EMPLOYEE-IDENT
PHYSICAL SEGMENT	EMPLOYEE-QUALIFICATIONS
PHYSICAL SEGMENT	EMPLOYEE-GENERAL

4 MEMBERS IN TOTAL

00192 REPORT EMPLOYEE-GENERAL.

REPORT OF PHYSICAL SEGMENT EMPLOYEE-GENERAL

EDITION 10 ENCODED BY MASTER AT 12.26.56 ON 13 OCT 1981
STATUS IMS
PROTECTION: NONE

ALIAS
LOW-LEVEL EMPRAL

CATALOGUED AS
PHYSICAL SEGMENT

DESCRIPTION
THIS PHYSICAL SEGMENT CONTAINS EMPLOYEE GENERAL DATA.

THIS MEMBER IS DIRECTLY REFERRED TO 7 TIMES
THIS MEMBER CONTAINS 5 DIRECT REFERENCES

PHYSICAL SEGMENT EMPLOYEE-GENERAL

ATTRIBUTES

SEQUENCE-KEY

ITEM SOCIAL-SECURITY-CODE UNIQUELY

POINTERS SINGLE-TWIN

GENERATES
ITEM EMPLOYEE-SALARY

CONTAINS
ITEM SOCIAL-SECURITY-CODE
ITEM TAX-CODE
ITEM EMPLOYEE-SALARY

X600

00193 WHICH PCBS USE EMPLOYEE-DATABASE-PHYSICAL.

Interrogation on PCBs.

THE FOLLOWING PCBS SATISFY THE GIVEN CRITERIA

STRUCTURE PCB
STRUCTURE PCB

PCB-PAYROLL
PCB-PERSONNEL

2 MEMBERS IN TOTAL

X600

```
00194 MODIFY PCB-PERSONNEL.
00195 100 PCB STRUCTURE BY GET REPLACE
00196 .
DM01180I ALTERATION HAS CREATED NEW SOURCE RECORD
DM01296I ENCODING OF PCB-PERSONNEL
00100 PCB STRUCTURE BY GET REPLACE
00200 SINGLE-POSITIONING
00300 DATABASE EMPLOYEE-DATABASE-PHYSICAL
00400 SEGMENT EMPLOYEE-DATA
00500 SEGMENT EMPLOYEE-IDENT
DM01889I STRUCTURE PROCESSING OPTIONS HAVE BEEN VALIDATED
00600 SENSITIVE-FIELDS EMPLOYEE-NAME,40,EMPLOYEE-TOWN
DM01887W REPLACE ASSUMED
00700 SEGMENT EMPLOYEE-QUALIFICATIONS
DM01887W REPLACE ASSUMED
00800 SENSITIVE-FIELDS QUALIFICATION-RATINGS
00900 SEGMENT EMPLOYEE-GENERAL
DM01887W REPLACE ASSUMED
01000 BY GET INSERT REPLACE
01100 ALIAS LOW-LEVEL 'PCBPRSNL'
01200 CATALOG 'STRUCTURE PCB'
01300 DESCRIPTION 'WILL GENERATE FIELD SENSITIVITY'
DM01889I SEGMENT PROCESSING OPTIONS HAVE BEEN VALIDATED
DM01280I PCB-PERSONNEL SUCCESSFULLY ENCODED

00197 MODIFY PCB-DATA.
00198 200 BY UPDATE
00199 .
DM01180I ALTERATION HAS CREATED NEW SOURCE RECORD
DM01296I ENCODING OF PCB-DATA
00100 PCB STRUCTURE
00200 BY UPDATE
00300 SINGLE-POSITIONING
00400 DATABASE EMPLOYEE-DATABASE-LOGICAL
00500 SEGMENT EMPLOYEE-IDENT-L
00600 SEGMENT EMPLOYEE-GENERAL
DM01889I STRUCTURE PROCESSING OPTIONS HAVE BEEN VALIDATED
00700 SEGMENT QUALIFICATIONS-L
00800 ALIAS LOW-LEVEL 'PCBDATA'
00900 CATALOG 'STRUCTURE PCB'
01000 DESCRIPTION 'WILL GENERATE LOGICAL STRUCTURE'
DM01280I PCB-DATA SUCCESSFULLY ENCODED

00200 REPORT PCB-PAYROLL.
```

REPORT OF STRUCTURE PCB PCB-PAYROLL

EDITION 3 ENCODED BY MASTER AT 18.18.40 ON 13 OCT 1981
STATUS IMS
PROTECTION: NONE

ALIAS
LOW-LEVEL PCBPAYRL

CATALOGUED AS
STRUCTURE PCB

DESCRIPTION
WILL GENERATE SECONDARY SEQUENCE

THIS MEMBER IS DIRECTLY REFERRED TO ONCE
THIS MEMBER CONTAINS 3 DIRECT REFERENCES

STRUCTURE PCB PCB-PAYROLL

PROCESSING OPTIONS

WITH GET ONLY

SINGLE-POSITIONING

DATABASE EMPLOYEE-DATABASE-PHYSICAL

SEGMENT EMPLOYEE-DATA

SECONDARY SEQUENCE ON

INDEX POINTER SEGMENT EMPLOYEE-INDEX

Extra validation features in DATAMANAGER mean that we must change PCB-PERSONNEL in order to produce PSBGEN as demonstrated later. To retain the illustration of the BY UPDATE clause, also change PCB-DATA. (These commands only need to be issued when the dictionary is first used; subsequent users may find the modified clauses already present on the dictionary.)

X600

00201 REPORT EMPLOYEE-DATABASE-LOGICAL.

Report EMPLOYEE-DATABASE-LOGICAL.

REPORT OF DL1 LOGICAL DATABASE EMPLOYEE-DATABASE-LOGICAL

EDITION 14 ENCODED BY ANALYST AT 15.40.04 ON 06 NOV 1981
 STATUS IMS
 PROTECTION: NONE

ALIAS
 LOW-LEVEL EMPDBL

CATALOGUED AS
 LOGICAL DATABASE

DESCRIPTION
 THIS LOGICAL DATABASE DEFINES EMPLOYEE-QUALIFICATIONS.

THIS MEMBER IS DIRECTLY REFERRED TO ONCE
 THIS MEMBER CONTAINS 7 DIRECT REFERENCES

DL1 LOGICAL DATABASE EMPLOYEE-DATABASE-LOGICAL

CONTAINS SEGMENTS

EMPLOYEE-DATA
 EMPLOYEE-IDENT-L PARENT EMPLOYEE-DATA
 EMPLOYEE-GENERAL PARENT EMPLOYEE-IDENT-L
 QUALIFICATIONS-L PARENT EMPLOYEE-DATA

00202 KEEP WHAT CONSTITUTES EMPLOYEE-DATABASE-LOGICAL.
 DMO1541I 28 ENTRIES ADDED TO KEPT-DATA LIST

00203 LIST KEPT-DATA ALPHABETICALLY.

LIST OF SELECTED MEMBERS

MEMBER NAME	TYPE	USAGE	CONDITION	AC	ALT	REM	OWNER
CK001	SYS REL FLD	2	DMR	YES	YES	YES	
COLLEGE-NAME	ITEM	2	SCE	ENC	YES	YES	YES
EDUCATION	GROUP	2	SCE	ENC	YES	YES	YES
EMP-KEY	CONC-KEY	1	DMR	YES	YES	YES	
EMPLOYEE-CODE	GROUP	5	SCE	ENC	YES	YES	PERSONNEL
EMPLOYEE-DATA	DST/SRC/TARG	13	SCE	ENC	YES	YES	YES
EMPLOYEE-DEPARTMENT	ITEM	3	SCE	ENC	YES	YES	PERSONNEL
EMPLOYEE-GENERAL	PHYSICAL SEG	7	SCE	ENC	YES	YES	YES
EMPLOYEE-IDENT	UNID L CHILD	4	SCE	ENC	YES	YES	YES
EMPLOYEE-IDENT-L	CONCAT SEG	3	SCE	ENC	YES	YES	YES
EMPLOYEE-IDENTIFICATION	GROUP	3	SCE	ENC	YES	YES	YES
EMPLOYEE-NAME	ITEM	5	SCE	ENC	YES	YES	PERSONNEL
EMPLOYEE-QUALIFICATIONS	PHYSICAL SEG	5	SCE	ENC	YES	YES	YES
EMPLOYEE-SALARY	ITEM	4	SCE	ENC	YES	YES	PERSONNEL
EMPLOYEE-STREET	ITEM	1	SCE	ENC	YES	YES	YES
EMPLOYEE-TELEPHONE	ITEM	1	SCE	ENC	YES	YES	YES
EMPLOYEE-TOWN	ITEM	2	SCE	ENC	YES	YES	YES
EMPLOYING-CODE	ITEM	3	SCE	ENC	YES	YES	YES
EMPLOYING-COMPANY	ITEM	2	SCE	ENC	YES	YES	YES
EXPERIENCE	GROUP	3	SCE	ENC	YES	YES	YES
EXPERIENCE-CODE	ITEM	1	SCE	ENC	YES	YES	YES
EXPERIENCE-YRS	ITEM	1	SCE	ENC	YES	YES	YES
PERSONNEL-CODE	ITEM	3	SCE	ENC	YES	YES	YES
QUALIFICATIONS	ITEM	1	SCE	ENC	YES	YES	YES
QUALIFICATIONS-L	LOGICAL SEG	2	SCE	ENC	YES	YES	YES
SOCIAL-SECURITY-CODE	ITEM	5	SCE	ENC	YES	YES	PERSONNEL
SX001	SYS REL FLD	3	DMR	YES	YES	YES	
TAX-CODE	ITEM	3	SCE	ENC	YES	YES	PERSONNEL

LIST CONTAINS 15 ITEMS
 4 GROUPS
 2 SYSTEM RELATED FIELDS
 1 CONCATENATED-KEY
 6 SEGMENTS
 28 MEMBERS IN TOTAL

X600

00204 WHICH SEGMENTS CONSTITUTE EMPLOYEE-DATABASE-LOGICAL.

Interrogation on segments

THE FOLLOWING SEGMENTS SATISFY THE GIVEN CRITERIA

PHYSICAL SEGMENT	EMPLOYEE-DATA
LOGICAL SEGMENT	EMPLOYEE-IDENT-L
PHYSICAL SEGMENT	EMPLOYEE-IDENT
PHYSICAL SEGMENT	EMPLOYEE-GENERAL
LOGICAL SEGMENT	QUALIFICATIONS-L
PHYSICAL SEGMENT	EMPLOYEE-QUALIFICATIONS

6 MEMBERS IN TOTAL

00205 REPORT EMPLOYEE-IDENT-L.

REPORT OF LOGICAL SEGMENT EMPLOYEE-IDENT-L

EDITION 6 ENCODED BY ANALYST AT 16.43.56 ON 22 OCT 1981
STATUS IMS
PROTECTION: NONE

ALIAS
LOW-LEVEL EMPIDNTL

CATALOGUED AS
LOGICAL SEGMENT

DESCRIPTION
THIS SEGMENT CONTAINS THE CONCATENATED PHYSICAL SEGMENTS

THIS MEMBER IS DIRECTLY REFERRED TO 3 TIMES
THIS MEMBER CONTAINS 2 DIRECT REFERENCES

LOGICAL SEGMENT EMPLOYEE-IDENT-L

ATTRIBUTES

CONTAINS PHYSICAL SEGMENTS

EMPLOYEE-IDENT
EMPLOYEE-DATA

00206 WHICH PCBS USE EMPLOYEE-DATABASE-LOGICAL.

... and PCBs.

THE FOLLOWING PCBS SATISFY THE GIVEN CRITERIA

STRUCTURE PCB	PCB-DATA
---------------	----------

1 MEMBER IN TOTAL

X600

00207 PRODUCE COBOL USED-IN PCB-PERSONNEL FROM
00208 EMPLOYEE-IDENT, EMPLOYEE-GENERAL NOGEN
00209 PRINT GIVING DESCRIPTIONS.

Produce COBOL IOGEN.

- 01 EMPLOYEE-IDENT.
 - * THIS PHYSICAL SEGMENT CONTAINS EMPLOYEE IDENTIFICATION.
 - 02 EMPLOYEE-NAME PIC X(30).
 - * EMPLOYEE SURNAME, FIRST NAME AND MIDDLE NAME
 - 02 FILLER PIC X(40).
 - 02 EMPLOYEE-TOWN PIC X(20).
 - * EMPLOYEE HOME TOWN NAME AND POST CODE

DM02217I EMPLOYEE-IDENT SUCCESSFULLY GENERATED

DM02541W NO SENSITIVE FIELDS ARE DEFINED FOR EMPLOYEE-GENERAL
DM02302W USED-IN ENTRY IGNORED FOR EMPLOYEE-GENERAL

- 01 EMPLOYEE-GENERAL.
 - * THIS PHYSICAL SEGMENT CONTAINS EMPLOYEE GENERAL DATA.
 - 02 SOCIAL-SECURITY-CODE PIC X(15).
 - * CURRENT EMPLOYEE SOCIAL SECURITY CODE
 - 02 TAX-CODE PIC 9(4).
 - * EMPLOYEE TAX CODE SENT BY TAX OFFICE
 - 02 EMPLOYEE-SALARY PIC 9(5).
 - * YEARLY SALARY. INCLUDES GEOGRAPHICAL ALLOWANCES

DM02217I EMPLOYEE-GENERAL SUCCESSFULLY GENERATED

X600

00210 PRODUCE IMS DBDGEN SEARCH-FIELDS FROM
00211 EMPLOYEE-DATABASE-PHYSICAL AS EDP NOGEN
00212 PRINT WITH-ALIAS LOW-LEVEL.

Produce DBDGEN.

DBD NAME=EMPDBS, ACCESS=(HDAM, VSAM),
RMNAME=(GENLRMD, 46, 60976,), PASSWD=NO
DM02273W GENLRMD MEMBER NAME USED INSTEAD OF REQUESTED ALIAS
DATASET DD1=EMPD0, DEVICE=3350, BLOCK=1024, SCAN=3
SEGM NAME=EMPLDATA, BYTES=8, POINTER=(TWIN, ...), RULES=(LLL)
LCHILD NAME=EMPENT
FIELD NAME=(EMPCODE, SEQ, U), BYTES=8, START=1, TYPE=C
FIELD NAME=/SX001
FIELD NAME=/CK001, BYTES=4, START=5
FIELD NAME=EMPLCODE, BYTES=4, START=1, TYPE=C
LCHILD NAME=(EMPINDX, EMPBNDX), POINTER=INDX
DM02488W DIRECT-ADDRESS POINTER ASSUMED
XDFLD NAME=EMPSRCH, SEGMENT=EMPLDATA, SACH=EMPLCODE,
SUBSEQ=/SX001, DDATA=/CK001
SEGM NAME=EMPENT
PARENT=((EMPLDATA), (EMPLDATA, VIRTUAL, EMPDBS)), BYTES=108,
POINTER=(TWIN, LPARNT, ...), RULES=(LLL)
DM02596W A DIRECT-ADDRESS LOGICAL PARENT POINTER IS ASSUMED
FIELD NAME=(EMPNAME, SEQ, U), BYTES=30, START=9, TYPE=C
FIELD NAME=EMPTOWN, BYTES=20, START=79, TYPE=C
SEGM NAME=EMPLIONS, PARENT=EMPLDATA, BYTES=74,
POINTER=(TWIN, ...)
FIELD NAME=(EMPCOL, SEQ, U), BYTES=30, START=1, TYPE=C
FIELD NAME=EMPEMP, BYTES=30, START=41, TYPE=C
SEGM NAME=EMPRAL, PARENT=EMPLDATA, BYTES=24, POINTER=(TWIN, ...)
FIELD NAME=(EMPSSC, SEQ, U), BYTES=15, START=1, TYPE=C
FIELD NAME=EMPSAL, BYTES=5, START=20, TYPE=C
DBDGEN
FINISH
END

DM02217I EMPLOYEE-DATABASE-PHYSICAL SUCCESSFULLY GENERATED

00213 PRODUCE IMS DBDGEN ALL-FIELDS FROM
00214 EMPLOYEE-DATABASE-INDEX AS EDI NOGEN
00215 PRINT WITH-ALIAS LOW-LEVEL.

DBD NAME=EMPBNDX, ACCESS=(INDEX, VSAM, PROT), PASSWD=NO
DATASET DD1=EMPD01, DEVICE=3330, OVFLW=EMPD02, BLOCK=(10, 10)
SEGM NAME=EMPINDX, BYTES=12
FIELD NAME=(INXSQKEY, SEQ, U), BYTES=8, START=1, TYPE=C
LCHILD NAME=(EMPLDATA, EMPDBS), POINTER=SNGL, INDEX=EMPSRCH
DM02488W DIRECT-ADDRESS POINTER ASSUMED
DBDGEN
FINISH
END

DM02217I EMPLOYEE-DATABASE-INDEX SUCCESSFULLY GENERATED

X600

00216
00217

PRODUCE IMS PSBGEN FROM PAYROLL NOGEN
PRINT WITH-ALIAS LOW-LEVEL.

Produce PSBGEN.

DM02540W
CESSED
DM02538W

PCB TYPE=DB,DBDNAME=EMPDBS,PROCOPT=RG,KEYLEN=38,POS=SINGLE
SENSEG NAME=EMPLDATA,PARENT=0
SENSEG NAME=EMPENT,PARENT=EMPLDATA
SENFLD NAME=EMPNAME,START=1,REPLACE=YES
SENFLD NAME=EMPTOWN,START=71,REPLACE=YES
SENSEG NAME=EMPTIONS,PARENT=EMPLDATA
SENFLD NAME=QUALRAT,START=1
ITEM QUALIFICATION-RATINGS IS A SENSITIVE FIELD AND IS NOT CONTAINED/DEFINED BY THE SEGMENT BEING PRO
ITEM QUALIFICATION-RATINGS MAY BE INVALID/UNRELIABLE DUE TO PREVIOUS ERRORS
SENSEG NAME=EMPRAL,PARENT=EMPLDATA,PROCOPT=GIR
PCB TYPE=DB,DBDNAME=EMPDBS,PROCOPT=GO,KEYLEN=4,POS=SINGLE, *
PROCSEQ=EMPBNDX
SENSEG NAME=EMPLDATA,PARENT=0
PCB TYPE=DB,DBDNAME=EMPDBL,PROCOPT=A,KEYLEN=53,POS=SINGLE
SENSEG NAME=EMPLDATA,PARENT=0
DM02860W PHYSICAL SEGMENT EMPLOYEE-DATA FORMS PART OF THE HIERARCHICAL PATH AND HAS BEEN INSERTED
SENSEG NAME=EMPIDNTL,PARENT=EMPLDATA
SENSEG NAME=EMPRAL,PARENT=EMPIDNTL
SENSEG NAME=QUAL,PARENT=EMPLDATA
PSBGEN PSBNAME=PAYROLL,LANG=COBOL
END

DM02217I PAYROLL SUCCESSFULLY GENERATED

24/1

CHAPTER 7

DATAMANAGER/SYSTEM 2000/80 DEMONSTRATION (X650)

COMMANDS DEMONSTRATED

STATUS "S2K".
 AUTHORITY "ANALYST".
 LIST S2K-DATABASES.
 COPY P1S01 FROM "CONV".
 PRINT P1S01.
 MODIFY P1S01.
 100 PROGRAM PROCESSES S2K ACCESSES DIVISION
 110 SUBSCHEMAS SSR-DEPARTMENT
 120 SSR VIEWS EMPLOYEE-PORTFOLIO KNOWN-AS
 130 SSR-EMPLOYEE-PORTFOLIO OPTIONS INITIAL-VALUES
 140 SELECTING EMPLOYEE-CODE,EMPLOYEE-NAME
 150 EMPLOYEE-SALARY
 160 COMMBLOCK DIVISION VIA MACRO
 170 OPTIONS INITIAL-VALUES PASSWORD IS "PASS"
 180 CASCADE LINKO EMPLOYEE-PORTFOLIO
 190 LINKS-TO SSR-DEPARTMENT

ADD SSR-DEPARTMENT.
 SSR VIEWS DEPARTMENT
 OPTIONS PARAMETER UPDATE
 SELECTING EMPLOYEE-DEPARTMENT KNOWN-AS
 SSR-EMPLOYEE-DEPARTMENT

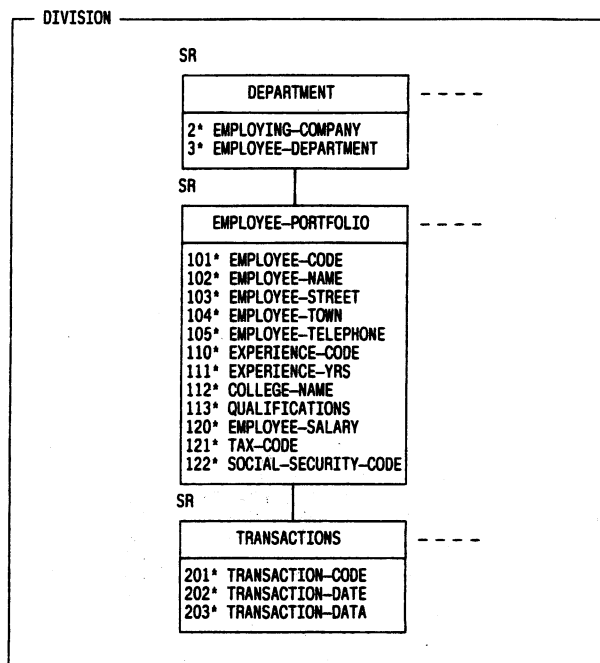
REPORT DIVISION.
 KEEP WHAT CONSTITUTES DIVISION.
 LIST KEPT-DATA ALPHABETICALLY.
 BULK PRINT KEPT-DATA ALPHABETICALLY.
 WHICH SRS CONSTITUTE DIVISION.
 WHICH SSR DIRECTLY USES DEPARTMENT VIA VIEW.
 REPORT EMPLOYEE-PORTFOLIO.
 PRODUCE S2K DEFINE COMPONENTS ONLY
 EMPLOYEE-CODE,EMPLOYEE-DEPARTMENT
 FUNCTIONS ONLY DEDUCTION FROM DIVISION
 NOGEN PRINT OMITTING UPDATES.
 PRODUCE S2K DEFINE COMPONENTS FUNCTIONS
 ONLY DEDUCTION FROM DIVISION
 NOGEN PRINT.
 REPORT DIVISION.
 REPLACE DIVISION.
 S2K-DATABASE
 CONTAINS DEPARTMENT,
 EMPLOYEE-PORTFOLIO C 100 PARENT DEPARTMENT,
 TRANSACTIONS C 200 PARENT EMPLOYEE-PORTFOLIO
 ITEM-COMPONENT-NUMBERS
 2 IS EMPLOYEE-DEPARTMENT,
 201 IS TRANSACTION-CODE,
 202 IS TRANSACTION-DATE,
 203 IS TRANSACTION-DATA

STRING EMPBLOC COMPONENT-NUMBER 1000
 "PRINT EMPLOYEE-NAME, EMPLOYING-COMPANY"
 "WHERE EMPLOYING-TOWN EQ '1'"
 FUNCTION DEDUCTION MONEY '(C110 - 5.50)'
 DELIMITER /
 USES EMPLOYEE-SALARY
 COMMBLOCK-NAME BLK1
 DATASETS MULTIPLE-VALUES-TABLE DEVICE "EMP1"
 PAGE-SIZE 1000
 HIERARCHY-TABLE DEVICE "EMP1"
 PAGE-SIZE 1000

DESCRIPTION

DATAMANAGER EXAMPLE DICTIONARY - SYSTEM 2000/80 DATABASE SUPPLEMENT

To show the SYSTEM 2000/80 database defined in the DATAMANAGER example dictionary in status S2K, and to show various forms of documentation and interrogation and source language generation outputs from it.



DIVISION is intended for simple demonstration only.

00220 STATUS "S2K".
 DM000961 NON-FROZEN STATUS S2K RECOGNISED

00221 AUTHORITY "ANALYST".
 DM010601 AUTHORITY RECOGNISED

00222 LIST S2K-DATABASES.

LIST OF SYSTEM 2000 DATABASES
 MEMBER NAME TYPE USAGE CONDITION AC ALT REM OWNER

DIVISION S2K DATABASE 0 SCE ENC YES YES YES

LIST CONTAINS 1 SYSTEM 2000 DATABASE

X650

```

00223 COPY P1S01 FROM "CONV".
DM01635E COPY SUCCESSFULLY COMPLETED

00224 PRINT P1S01.

PRINT OF P1S01
00100 PROGRAM
00200 INPUTS P1V01WVAL
00300 OUTPUTS P1S01TSORT
01000 AUTHOR 'ANDREW STEVENS (PROGRAMMER)'
07000 ALIAS 'SORT-EMPLOYEE-TRANSACTIONS'
08000 CATALOGUE 'BATCH', 'SORT', 'WEEKLY'
09000 DESCRIPTION
09100 'THIS PROGRAM SORTS EMPLOYEE TRANSACTIONS IN EMPLOYEE CODE SEQUENCE'
10000 NOTE
10100 'DATES DEVELOPED'
10200 ' MARCH 1979'
10300 ' '
10400 'INSTRUCTIONS - RECOVERY'
10500 ' NO FILE TO BE RECOVERED'
20000 ACCESS-AUTHORITY 'PETER LEWIS'
23000 FREQUENCY WEEKLY 'BATCH'
END OF PRINT

00225 MODIFY P1S01.
00226 100 PROGRAM PROCESSES S2K ACCESSES DIVISION
00227 110 SUBSCHEMAS SSR-DEPARTMENT
00228 120 SSR VIEWS EMPLOYEE-PORTFOLIO KNOWN-AS
00229 130 SSR-EMPLOYEE-PORTFOLIO OPTIONS INITIAL-VALUES
00230 140 SELECTING EMPLOYEE-CODE,EMPLOYEE-NAME
00231 150 EMPLOYEE-SALARY
00232 160 COMMBLOCK DIVISION VIA MACRO
00233 170 OPTIONS INITIAL-VALUES PASSWORD IS "PASS"
00234 180 CASCADE LINKO EMPLOYEE-PORTFOLIO
00235 190 LINKS-TO SSR-DEPARTMENT
00236

DM01180I ALTERATION HAS CREATED NEW SOURCE RECORD
DM01296I ENCODING OF P1S01
00100 PROGRAM PROCESSES S2K ACCESSES DIVISION
00110 SUBSCHEMAS SSR-DEPARTMENT
00120 SSR VIEWS EMPLOYEE-PORTFOLIO KNOWN-AS
00130 SSR-EMPLOYEE-PORTFOLIO OPTIONS INITIAL-VALUES
00140 SELECTING EMPLOYEE-CODE,EMPLOYEE-NAME
00150 EMPLOYEE-SALARY
00160 COMMBLOCK DIVISION VIA MACRO
00170 OPTIONS INITIAL-VALUES PASSWORD IS "PASS"
00180 CASCADE LINKO EMPLOYEE-PORTFOLIO
00190 LINKS-TO SSR-DEPARTMENT
00200 INPUTS P1V01WVAL
00300 OUTPUTS P1S01TSORT
01000 AUTHOR 'ANDREW STEVENS (PROGRAMMER)'
07000 ALIAS 'SORT-EMPLOYEE-TRANSACTIONS'
08000 CATALOGUE 'BATCH', 'SORT', 'WEEKLY'
09000 DESCRIPTION
09100 'THIS PROGRAM SORTS EMPLOYEE TRANSACTIONS IN EMPLOYEE CODE SEQUENCE'
10000 NOTE
10100 'DATES DEVELOPED'
10200 ' MARCH 1979'
10300 ' '
10400 'INSTRUCTIONS - RECOVERY'
10500 ' NO FILE TO BE RECOVERED'
20000 ACCESS-AUTHORITY 'PETER LEWIS'
23000 FREQUENCY WEEKLY 'BATCH'

DM01286I S2K-SUBSCHEMA-RECORD SSR-DEPARTMENT CREATED AS DUMMY
DM01286I ITEM P1V01WVAL CREATED AS DUMMY
DM01286I ITEM P1S01TSORT CREATED AS DUMMY
DM01280I P1S01 SUCCESSFULLY ENCODED

```

Before we report DIVISION, let us introduce into the database the enhancements to SYSTEM 2000/80 member definitions. The new PROCESSES clause can be inserted in system, program and module definitions. (The following commands and the ADD SSR-DEPARTMENT command only need to be issued when the dictionary is first used; subsequent users may find that the new clause and definition are already present on the dictionary.)

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	00237	ADD SSR-DEPARTMENT.
	00238	SSR VIEWS DEPARTMENT
	00239	OPTIONS PARAMETER UPDATE
	00240	SELECTING EMPLOYEE-DEPARTMENT KNOWN-AS
	00241	SSR-EMPLOYEE-DEPARTMENT
	00242	.
DM01131I		SSR-DEPARTMENT SUCCESSFULLY INSERTED
DM01296I		ENCODING OF SSR-DEPARTMENT
	00100	SSR VIEWS DEPARTMENT
	00200	OPTIONS PARAMETER UPDATE
	00300	SELECTING EMPLOYEE-DEPARTMENT KNOWN-AS
	00400	SSR-EMPLOYEE-DEPARTMENT
DM01280I		SSR-DEPARTMENT SUCCESSFULLY ENCODED

*A SYSTEM 2000/80 subschema record
definition can now be added.*

X650

00243 REPORT DIVISION.

Report DIVISION.

REPORT OF SYSTEM 2000 DATABASE DIVISION

EDITION 12 ENCODED BY ANALYST AT 09.32.27 ON 09 SEP 1982
STATUS S2K
PROTECTION: NONE

THIS MEMBER IS DIRECTLY REFERRED TO 2 TIMES
THIS MEMBER CONTAINS 12 DIRECT REFERENCES

SYSTEM 2000 DATABASE DIVISION

CONTAINS DEPARTMENT
EMPLOYEE-PORTFOLIO PARENT DEPARTMENT
TRANSACTIONS PARENT EMPLOYEE-PORTFOLIO

COMPONENT NUMBERS 100 IS EMPLOYEE-PORTFOLIO
200 IS TRANSACTIONS
2 IS EMPLOYEE-DEPARTMENT
201 IS TRANSACTION-CODE
202 IS TRANSACTION-DATE
203 IS TRANSACTION-DATA

STRING EMPBLOC COMPONENT NUMBER 1000
PRINT EMPLOYEE-NAME, EMPLOYING-COMPANYWHERE EMPLOYING-TOWN EQ *1*

FUNCTION DEDUCTION MONEY
(C110 - 5.50)
DELIMITER /
USES EMPLOYEE-SALARY

COMMBLOCK BLK1

DATASETS MULTIPLE VALUES TABLE DEVICE EMP1 PAGE SIZE 1000
HIERARCHY TABLE DEVICE EMP1 PAGE SIZE 1000

X650

00244 KEEP WHAT CONSTITUTES DIVISION.
 DMO1541I 21 ENTRIES ADDED TO KEPT-DATA LIST

Produce a list of contained members

00245 LIST KEPT-DATA ALPHABETICALLY.

LIST OF SELECTED MEMBERS
 MEMBER NAME

TYPE	USAGE	CONDITION	AC	ALT	REM	OWNER
COLLEGE-NAME	ITEM	2	SCE	ENC	YES	YES YES
DEPARTMENT	S2K SR	3	SCE	ENC	YES	YES YES
EMPLOYEE-CODE	ITEM	7	SCE	ENC	YES	YES PERSONNEL
EMPLOYEE-DEPARTMENT	ITEM	7	SCE	ENC	YES	YES PERSONNEL
EMPLOYEE-NAME	ITEM	5	SCE	ENC	YES	YES PERSONNEL
EMPLOYEE-PORTFOLIO	S2K SR	5	SCE	ENC	YES	YES YES PERSONNEL
EMPLOYEE-SALARY	ITEM	5	SCE	ENC	YES	YES PERSONNEL
EMPLOYEE-STREET	ITEM	2	SCE	ENC	YES	YES YES
EMPLOYEE-TELEPHONE	ITEM	2	SCE	ENC	YES	YES YES
EMPLOYEE-TOWN	ITEM	2	SCE	ENC	YES	YES YES
EMPLOYING-COMPANY	ITEM	3	SCE	ENC	YES	YES YES
EXPERIENCE-CODE	ITEM	2	SCE	ENC	YES	YES YES
EXPERIENCE-YRS	ITEM	2	SCE	ENC	YES	YES YES
QUALIFICATIONS	ITEM	2	SCE	ENC	YES	YES YES
SOCIAL-SECURITY-CODE	ITEM	4	SCE	ENC	YES	YES PERSONNEL
STANDARD-DATE	ITEM	3	SCE	ENC	YES	YES YES PERSONNEL
TAX-CODE	ITEM	3	SCE	ENC	YES	YES PERSONNEL
TRANSACTION-CODE	ITEM	5	SCE	ENC	YES	YES YES
TRANSACTION-DATA	ITEM	4	SCE	ENC	YES	YES YES
TRANSACTION-DATE	ITEM	5	SCE	ENC	YES	YES YES
TRANSACTIONS	S2K SR	2	SCE	ENC	YES	YES YES

LIST CONTAINS 18 ITEMS
 3 SYSTEM 2000 SCHEMA RECORDS
 21 MEMBERS IN TOTAL

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00246 BULK PRINT KEPT-DATA ALPHABETICALLY.

... and a print of contained members.

PRINT OF COLLEGE-NAME
ITEM
00100
00200 HELD-AS CHARACTER 30
00300 REPORTED-AS PICTURE 'X(30)'
00400 ENTERED-AS CHARACTER 30
07000 ALIAS LOW-LEVEL 'EMPCOL'
08000 CATALOG 'EMPLOYEE', 'DESCRIPTION'
09000 DESCRIPTION
09100 'NAME OF COLLEGE/FACULTY'
END OF PRINT

PRINT OF DEPARTMENT
SR
00100
00200 HELD-AS
00300 CONTAINS EMPLOYING-COMPANY,
00400 EMPLOYEE-DEPARTMENT
00500 KEYS EMPLOYING-COMPANY, EMPLOYEE-DEPARTMENT
END OF PRINT

PRINT OF EMPLOYEE-CODE
ITEM
00100
00200 ENTERED-AS ALPHANUMERIC 4
00300 HELD-AS DECIMAL 4 CONTENTS RANGE 1000 TO 8000
00400 REPORTED-AS PICTURE '9999'
07000 ALIAS LOW-LEVEL 'EMPCODE'
08000 CATALOG 'EMPLOYEE', 'CODE'
09000 DESCRIPTION
09100 'STANDARD EMPLOYEE CODE'
10000 NOTE
10100 'INPUT FORM'
10200 'EMPLOYEE-TRANSACTIONS-FORM'
END OF PRINT

PRINT OF EMPLOYEE-DEPARTMENT
ITEM
00100
00200 HELD-AS DECIMAL 3 CONTENTS
00300 RANGE 100 TO 150
00400 ELSE IS 180
00500 ELSE RANGE 200 TO 900
00600 REPORTED-AS PICTURE '999'
00700 ENTERED-AS DECIMAL 3
07000 ALIAS LOW-LEVEL 'EMPDEPT'
08000 CATALOG 'EMPLOYEE', 'CODE'
09000 DESCRIPTION
09100 'EMPLOYEE DEPARTMENT CODE'
END OF PRINT

PRINT OF EMPLOYEE-NAME
ITEM
00100
00200 HELD-AS CHARACTER 30
00300 REPORTED-AS PICTURE 'X(10)B(5)X(10)B(3)X(10)'
00400 ENTERED-AS CHARACTER 30
07000 ALIAS LOW-LEVEL 'EMPNAME'
08000 CATALOG 'EMPLOYEE', 'DESCRIPTION'
09000 DESCRIPTION
09100 'EMPLOYEE SURNAME, FIRST NAME AND MIDDLE NAME'
END OF PRINT

PRINT OF EMPLOYEE-PORTFOLIO
SR
00100
00200 HELD-AS
00300 CONTAINS EMPLOYEE-CODE,
00400 EMPLOYEE-NAME,
00410 EMPLOYEE-STREET,
00420 EMPLOYEE-TOWN,
00430 EMPLOYEE-TELEPHONE,
00500 EXPERIENCE-CODE,
00600 EXPERIENCE-YRS,
00700 COLLEGE-NAME,
00710 QUALIFICATIONS,
00800 EMPLOYEE-SALARY,
00900 TAX-CODE,
01000 SOCIAL-SECURITY-CODE
01100 KEYS EMPLOYEE-CODE,
01200 EMPLOYEE-NAME,
01300 SOCIAL-SECURITY-CODE
END OF PRINT

PRINT OF EMPLOYEE-SALARY
ITEM
00100
00200 HELD-AS DECIMAL 5 CONTENTS RANGE 10000 TO 50000
00300 REPORTED-AS PICTURE '£B99,999'
00400 ENTERED-AS NUMERIC 5
07000 ALIAS LOW-LEVEL 'EMPSAL'
08000 CATALOG 'SALARY', 'NUMERIC'
09000 DESCRIPTION

X650

09100 'YEARLY SALARY. INCLUDES GEOGRAPHICAL ALLOWANCES'
END OF PRINT

PRINT OF EMPLOYEE-STREET
00100 ITEM
00200 HELD-AS CHARACTER 40
00300 REPORTED-AS PICTURE "X(40)"
00400 ENTERED-AS CHARACTER 40
07000 ALIAS LOW-LEVEL 'EMPSTR'
08000 CATALOG 'EMPLOYEE', 'DESCRIPTION'
09000 DESCRIPTION
09100 'EMPLOYEE STREET NAME INCLUDING ANY APARTMENT NUMBER'
END OF PRINT

PRINT OF EMPLOYEE-TELEPHONE
00100 ITEM
00200 HELD-AS DECIMAL 10
00300 REPORTED-AS PICTURE '999BB999B9999'
00400 ENTERED-AS NUMERIC-CHARACTER 10
07000 ALIAS LOW-LEVEL 'EMPTLNO'
08000 CATALOG 'EMPLOYEE', 'DESCRIPTION'
09000 DESCRIPTION
09100 'EMPLOYEE TELEPHONE NUMBER INCLUDING CODE'
END OF PRINT

PRINT OF EMPLOYEE-TOWN
00100 ITEM
00200 HELD-AS CHARACTER 20
00300 ENTERED-AS CHARACTER 20
00400 REPORTED-AS PICTURE "X(20)"
07000 ALIAS LOW-LEVEL 'EMPTOWN'
08000 CATALOG 'EMPLOYEE', 'DESCRIPTION'
09000 DESCRIPTION
09100 'EMPLOYEE HOME TOWN NAME AND POST CODE'
END OF PRINT

PRINT OF EMPLOYING-COMPANY
00100 ITEM
00200 ENTERED-AS CHARACTER 30
00300 HELD-AS CHARACTER 30
00400 REPORTED-AS PICTURE "X(30)"
07000 ALIAS LOW-LEVEL 'EMPEMP'
08000 CATALOG 'EMPLOYEE', 'DESCRIPTION'
09000 DESCRIPTION
09100 'NAME OF OUTSIDE COMPANY OR INTERNAL DEPARTMENT OF THIS ORGANISATION'
END OF PRINT

PRINT OF EXPERIENCE-CODE
00100 ITEM
00200 HELD-AS DECIMAL 2 CONTENTS RANGE 01 TO 99
00300 ENTERED-AS NUMERIC-CHARACTER 2
00400 REPORTED-AS PICTURE "99"
07000 ALIAS LOW-LEVEL 'EMPOST'
08000 CATALOG 'EMPLOYEE', 'CODE'
09000 DESCRIPTION
09100 'EXPERIENCE CODE TAKEN FROM STANDARD CODING BOOK'
END OF PRINT

PRINT OF EXPERIENCE-YRS
00100 ITEM
00200 HELD-AS DECIMAL 2 CONTENTS
00300 RANGE 01 TO 10
00400 ELSE RANGE 01 TO 15
00500 IF EMPLOYEE-DEPARTMENT EQ 180
00600 ENTERED-AS NUMERIC-CHARACTER 2
00700 REPORTED-AS PICTURE "99"
07000 ALIAS LOW-LEVEL 'EMPYRS'
08000 CATALOG 'EMPLOYEE', 'NUMERIC'
09000 DESCRIPTION
09100 'NUMBER OF YEARS EXPERIENCE'
END OF PRINT

PRINT OF QUALIFICATIONS
00100 ITEM
00200 HELD-AS CHARACTER 10
00300 ENTERED-AS CHARACTER 10
00400 REPORTED-AS PICTURE "X(10)"
07000 ALIAS LOW-LEVEL 'EMPOUA'
08000 CATALOG 'EMPLOYEE', 'DESCRIPTION'
09000 DESCRIPTION
09100 'QUALIFICATION OBTAINED AND DATE OF CERTIFICATE (SHOWN AS MM/YY)'
END OF PRINT

PRINT OF SOCIAL-SECURITY-CODE
00100 ITEM
00200 ENTERED-AS 1 ALPHANUMERIC 15
00300 ENTERED-AS 2 CHARACTER 15

X650

00400 HELD-AS ALPHANUMERIC 15
00500 REPORTED-AS PICTURE 'XXXBX(5)B999BXXXX'
07000 ALIAS LOW-LEVEL 'EMPSSC'
08000 CATALOG 'SALARY', 'CODE'
09000 DESCRIPTION
09100 'CURRENT EMPLOYEE SOCIAL SECURITY CODE'
END OF PRINT

PRINT OF STANDARD-DATE
00100 ITEM
00200 ENTERED-AS CHARACTER 8 CONTENTS FORMAT 'DD/MM/YY'
00300 HELD-AS DECIMAL 6
00400 REPORTED-AS PICTURE '99X99X99' CONTENTS FORMAT 'DD/MM/YY'
00500 USAGE DATE
07000 ALIAS LOW-LEVEL 'STDAT'
08000 CATALOG 'EMPLOYEE', 'DATE'
09000 DESCRIPTION
09100 'PERSONNEL STANDARD DATE FORMATS'
END OF PRINT

PRINT OF TAX-CODE
00100 ITEM
00200 HELD-AS DECIMAL 4 CONTENTS IS 538
00300 ELSE IS 670
00400 ELSE RANGE 1000 TO 6000
00500 ENTERED-AS NUMERIC-CHARACTER 4
00600 REPORTED-AS PICTURE '9999'
07000 ALIAS LOW-LEVEL 'EMPTAX'
08000 CATALOG 'SALARY', 'CODE'
09000 DESCRIPTION
09100 'EMPLOYEE TAX CODE SENT BY TAX OFFICE'
10000 NOTE
10100 'ACCURACY'
10200 ' TAX CODE IS ONE MONTH OUT OF DATE'
END OF PRINT

PRINT OF TRANSACTION-CODE
00100 ITEM
00200 ENTERED-AS CHARACTER 2
00300 HELD-AS DECIMAL 2 CONTENTS RANGE 10 TO 90
00400 REPORTED-AS PICTURE '99'
07000 ALIAS LOW-LEVEL 'EMPTRANS'
08000 CATALOG 'EMPLOYEE', 'CODE'
09000 DESCRIPTION
09100 'EMPLOYEE TRANSACTION CODE'
END OF PRINT

PRINT OF TRANSACTION-DATA
00100 ITEM
00200 ENTERED-AS CHARACTER 40
00300 HELD-AS CHARACTER 40
00400 REPORTED-AS PICTURE 'X(40)'
07000 ALIAS LOW-LEVEL 'EMPTRADA'
08000 CATALOG 'EMPLOYEE', 'DESCRIPTION', 'NUMERIC'
09000 DESCRIPTION
09100 'TRANSACTION DATA INPUT VIA V.D.U.'
10000 NOTE

10100 'INPUT FORM'
10200 ' EMPLOYEE-TRANSACTIONS-FORM'
10300 ', '
10400 'ACCURACY'
10500 ' PERSONNEL DEPARTMENT IS RESPONSIBLE'
10600 ' FOR ENSURING THAT DATA IS COMPLETELY'
10700 ' CORRECT'
END OF PRINT

PRINT OF TRANSACTION-DATE
00100 ITEM
00200 ENTERED-AS NAME STANDARD-DATE
00300 HELD-AS NAME STANDARD-DATE
00400 REPORTED-AS NAME STANDARD-DATE
07000 ALIAS LOW-LEVEL 'EMPDAT'
08000 CATALOG 'EMPLOYEE', 'DATE'
09000 DESCRIPTION
09100 'EMPLOYEE TRANSACTION DATE'
10000 NOTE
10100 'ACCURACY'
10200 ' DATE IS TAKEN FROM OPERATING SYSTEM'
10300 ' SUPERVISOR AT THE TIME OF INPUT'
END OF PRINT

PRINT OF TRANSACTIONS
00100 SR
00200 HELD-AS
00300 CONTAINS TRANSACTION-CODE,

X650

00400 TRANSACTION-DATE,
00500 TRANSACTION-DATA
00600 KEYS TRANSACTION-CODE,
00700 TRANSACTION-DATE
END OF PRINT

21 MEMBERS PROCESSED BY BULK PRINT

X650

00247 WHICH SRS CONSTITUTE DIVISION.

Interrogation of SYSTEM 2000/80
members.

THE FOLLOWING SYSTEM 2000 SCHEMA RECORDS SATISFY THE GIVEN CRITERIA

SYSTEM 2000 SCHEMA RECORD	DEPARTMENT
SYSTEM 2000 SCHEMA RECORD	EMPLOYEE-PORTFOLIO
SYSTEM 2000 SCHEMA RECORD	TRANSACTIONS

3 MEMBERS IN TOTAL

00248 WHICH SSR DIRECTLY USES DEPARTMENT VIA VIEW.

THE FOLLOWING S2K-SUBSCHEMA-RECORDS SATISFY THE GIVEN CRITERIA

S2K-SUBSCHEMA-RECORD	SSR-DEPARTMENT
----------------------	----------------

1 MEMBER IN TOTAL

00249 REPORT EMPLOYEE-PORTFOLIO.

REPORT OF SYSTEM 2000 SCHEMA RECORD EMPLOYEE-PORTFOLIO

EDITION 5 ENCODED BY MASTER AT 16.28.34 ON 18 JAN 1982
STATUS S2K
PROTECTION: NONE

THIS MEMBER IS DIRECTLY REFERRED TO 5 TIMES
THIS MEMBER CONTAINS 15 DIRECT REFERENCES

SYSTEM 2000 SCHEMA RECORD EMPLOYEE-PORTFOLIO

FORM HELD-AS

KEYS EMPLOYEE-CODE
EMPLOYEE-NAME
SOCIAL-SECURITY-CODE

CONTAINS

ITEM EMPLOYEE-CODE
ITEM EMPLOYEE-NAME
ITEM EMPLOYEE-STREET
ITEM EMPLOYEE-TOWN
ITEM EMPLOYEE-TELEPHONE
ITEM EXPERIENCE-CODE
ITEM EXPERIENCE-YRS
ITEM COLLEGE-NAME
ITEM QUALIFICATIONS
ITEM EMPLOYEE-SALARY
ITEM TAX-CODE
ITEM SOCIAL-SECURITY-CODE

X650

00250 PRODUCE S2K DEFINE COMPONENTS ONLY
 00251 EMPLOYEE-CODE,EMPLOYEE-DEPARTMENT
 00252 FUNCTIONS ONLY DEDUCTION FROM DIVISION
 00253 NOGEN PRINT OMITTING UPDATES.

Produce S2K. The command generates component numbers and updates the source of DIVISION, unless the OMITTING UPDATES clause is specified.

2* EMPLOYEE-DEPARTMENT (KEY INTEGER 999):
 101* EMPLOYEE-CODE (KEY INTEGER 9(4)):
 1* DEDUCTION (MONEY FUNCTION/(C110 - 5.50)/):

DMO2217I DIVISION SUCCESSFULLY GENERATED

00254 PRODUCE S2K DEFINE COMPONENTS FUNCTIONS
 00255 ONLY DEDUCTION FROM DIVISION
 00256 NOGEN PRINT.

DMO2655I 28 LINES ADDED TO DIVISION SOURCE RECORD

1* EMPLOYING-COMPANY (KEY TEXT X(30)):
 2* EMPLOYEE-DEPARTMENT (KEY INTEGER 999):
 100* EMPLOYEE-PORTFOLIO (SR):
 101* EMPLOYEE-CODE (KEY INTEGER 9(4) IN 100):
 102* EMPLOYEE-NAME (KEY TEXT X(30) IN 100):
 103* EMPLOYEE-STREET (NON-KEY TEXT X(40) IN 100):
 104* EMPLOYEE-TOWN (NON-KEY TEXT X(20) IN 100):
 105* EMPLOYEE-TELEPHONE (NON-KEY INTEGER 9(10) IN 100):
 106* EXPERIENCE-CODE (NON-KEY INTEGER 99 IN 100):
 107* EXPERIENCE-YRS (NON-KEY INTEGER 99 IN 100):
 108* COLLEGE-NAME (NON-KEY TEXT X(30) IN 100):
 109* QUALIFICATIONS (NON-KEY TEXT X(10) IN 100):
 110* EMPLOYEE-SALARY (NON-KEY INTEGER 9(5) IN 100):
 111* TAX-CODE (NON-KEY INTEGER 9(4) IN 100):
 112* SOCIAL-SECURITY-CODE (KEY TEXT X(15) IN 100):
 200* TRANSACTIONS (SR IN 100):
 201* TRANSACTION-CODE (KEY INTEGER 99 IN 200):
 202* TRANSACTION-DATE (KEY INTEGER 9(6) IN 200):
 203* TRANSACTION-DATA (NON-KEY TEXT X(40) IN 200):
 3* DEDUCTION (MONEY FUNCTION/(C110 - 5.50)/):

DMO2217I DIVISION SUCCESSFULLY GENERATED

DMO1296I

ENCODING OF DIVISION
 S2K-DATABASE
 CONTAINS DEPARTMENT,
 EMPLOYEE-PORTFOLIO C 100 PARENT DEPARTMENT,
 TRANSACTIONS C 200 PARENT EMPLOYEE-PORTFOLIO
 ITEM-COMPONENT-NUMBERS
 2 IS EMPLOYEE-DEPARTMENT,
 201 IS TRANSACTION-CODE,
 202 IS TRANSACTION-DATE,
 203 IS TRANSACTION-DATA
 STRING EMPBLOC COMPONENT-NUMBER 1000
 "PRINT EMPLOYEE-NAME, EMPLOYING-COMPANY"
 "WHERE EMPLOYING-TOWN EQ '1'"
 FUNCTION DEDUCTION MONEY '(C110 - 5.50)'
 DELIMITER /
 USES EMPLOYEE-SALARY
 COMBLOCK-NAME BLK1
 DATASETS MULTIPLE-VALUES-TABLE DEVICE "EMP1"
 PAGE-SIZE 1000
 HIERARCHY-TABLE DEVICE "EMP1"
 PAGE-SIZE 1000
 COMPONENT-NO 1 IS MEMBER 'EMPLOYING-COMPANY'
 DMR-NOTE 'GENERATED BY DATAMANAGER AT 11.08 ON 09 SEP 82'
 COMPONENT-NO 101 IS MEMBER 'EMPLOYEE-CODE'
 DMR-NOTE 'GENERATED BY DATAMANAGER AT 11.08 ON 09 SEP 82'
 COMPONENT-NO 102 IS MEMBER 'EMPLOYEE-NAME'
 DMR-NOTE 'GENERATED BY DATAMANAGER AT 11.08 ON 09 SEP 82'
 COMPONENT-NO 103 IS MEMBER 'EMPLOYEE-STREET'
 DMR-NOTE 'GENERATED BY DATAMANAGER AT 11.08 ON 09 SEP 82'
 COMPONENT-NO 104 IS MEMBER 'EMPLOYEE-TOWN'
 DMR-NOTE 'GENERATED BY DATAMANAGER AT 11.08 ON 09 SEP 82'
 COMPONENT-NO 105 IS MEMBER 'EMPLOYEE-TELEPHONE'
 DMR-NOTE 'GENERATED BY DATAMANAGER AT 11.08 ON 09 SEP 82'
 COMPONENT-NO 106 IS MEMBER 'EXPERIENCE-CODE'
 DMR-NOTE 'GENERATED BY DATAMANAGER AT 11.08 ON 09 SEP 82'
 COMPONENT-NO 107 IS MEMBER 'EXPERIENCE-YRS'
 DMR-NOTE 'GENERATED BY DATAMANAGER AT 11.08 ON 09 SEP 82'
 COMPONENT-NO 108 IS MEMBER 'COLLEGE-NAME'
 DMR-NOTE 'GENERATED BY DATAMANAGER AT 11.08 ON 09 SEP 82'
 COMPONENT-NO 109 IS MEMBER 'QUALIFICATIONS'
 DMR-NOTE 'GENERATED BY DATAMANAGER AT 11.08 ON 09 SEP 82'
 COMPONENT-NO 110 IS MEMBER 'EMPLOYEE-SALARY'
 DMR-NOTE 'GENERATED BY DATAMANAGER AT 11.08 ON 09 SEP 82'
 COMPONENT-NO 111 IS MEMBER 'TAX-CODE'
 DMR-NOTE 'GENERATED BY DATAMANAGER AT 11.08 ON 09 SEP 82'
 COMPONENT-NO 112 IS MEMBER 'SOCIAL-SECURITY-CODE'
 DMR-NOTE 'GENERATED BY DATAMANAGER AT 11.08 ON 09 SEP 82'
 COMPONENT-NO 3 IS FUNCTION 'DEDUCTION'
 DMR-NOTE 'GENERATED BY DATAMANAGER AT 11.08 ON 09 SEP 82'

DMO1280I

DIVISION SUCCESSFULLY ENCODED

X650

00257 REPORT DIVISION.

REPORT OF SYSTEM 2000 DATABASE DIVISION

EDITION 13 ENCODED BY ANALYST AT 11.08.08 ON 09 SEP 1982
STATUS S2K
PROTECTION: NONE

THIS MEMBER IS DIRECTLY REFERRED TO 2 TIMES
THIS MEMBER CONTAINS 25 DIRECT REFERENCES

SYSTEM 2000 DATABASE DIVISION

CONTAINS DEPARTMENT
EMPLOYEE-PORTFOLIO PARENT DEPARTMENT
TRANSACTIONS PARENT EMPLOYEE-PORTFOLIO

COMPONENT NUMBERS 100 IS EMPLOYEE-PORTFOLIO
200 IS TRANSACTIONS
2 IS EMPLOYEE-DEPARTMENT
201 IS TRANSACTION-CODE
202 IS TRANSACTION-DATE
203 IS TRANSACTION-DATA
1 IS EMPLOYING-COMPANY
DMR-NOTE GENERATED BY DATAMANAGER AT 11.08 ON 09 SEP 82
101 IS EMPLOYEE-CODE
DMR-NOTE GENERATED BY DATAMANAGER AT 11.08 ON 09 SEP 82
102 IS EMPLOYEE-NAME
DMR-NOTE GENERATED BY DATAMANAGER AT 11.08 ON 09 SEP 82
103 IS EMPLOYEE-STREET
DMR-NOTE GENERATED BY DATAMANAGER AT 11.08 ON 09 SEP 82
104 IS EMPLOYEE-TOWN
DMR-NOTE GENERATED BY DATAMANAGER AT 11.08 ON 09 SEP 82
105 IS EMPLOYEE-TELEPHONE
DMR-NOTE GENERATED BY DATAMANAGER AT 11.08 ON 09 SEP 82
106 IS EXPERIENCE-CODE
DMR-NOTE GENERATED BY DATAMANAGER AT 11.08 ON 09 SEP 82
107 IS EXPERIENCE-YRS
DMR-NOTE GENERATED BY DATAMANAGER AT 11.08 ON 09 SEP 82
108 IS COLLEGE-NAME
DMR-NOTE GENERATED BY DATAMANAGER AT 11.08 ON 09 SEP 82
109 IS QUALIFICATIONS
DMR-NOTE GENERATED BY DATAMANAGER AT 11.08 ON 09 SEP 82
110 IS EMPLOYEE-SALARY
DMR-NOTE GENERATED BY DATAMANAGER AT 11.08 ON 09 SEP 82
111 IS TAX-CODE
DMR-NOTE GENERATED BY DATAMANAGER AT 11.08 ON 09 SEP 82
112 IS SOCIAL-SECURITY-CODE
DMR-NOTE GENERATED BY DATAMANAGER AT 11.08 ON 09 SEP 82

STRING EMPBLOC COMPONENT NUMBER 1000
PRINT EMPLOYEE-NAME, EMPLOYING-COMPANYWHERE EMPLOYING-TOWN EQ *1*

FUNCTION DEDUCTION MONEY COMPONENT NUMBER 3
DMR-NOTE GENERATED BY DATAMANAGER AT 11.08 ON 09 SEP 82
(C110 - 5.50)
DELIMITER /
USES EMPLOYEE-SALARY

COMMBLOCK BLK1

DATASETS MULTIPLE VALUES TABLE DEVICE EMP1 PAGE SIZE 1000
HIERARCHY TABLE DEVICE EMP1 PAGE SIZE 1000

*Report DIVISION. See how the
component numbers have been
generated by the PRODUCE command;
compare this to the output of the
REPORT command on page 7-4.*

X650

```
00258 REPLACE DIVISION.
00259 S2K-DATABASE
00260 CONTAINS DEPARTMENT,
00261 EMPLOYEE-PORTFOLIO C 100 PARENT DEPARTMENT,
00262 TRANSACTIONS C 200 PARENT EMPLOYEE-PORTFOLIO
00263 ITEM-COMPONENT-NUMBERS
00264 2 IS EMPLOYEE-DEPARTMENT,
00265 201 IS TRANSACTION-CODE,
00266 202 IS TRANSACTION-DATE,
00267 203 IS TRANSACTION-DATA
00268 STRING EMPBLOC COMPONENT-NUMBER 1000
00269 "PRINT EMPLOYEE-NAME, EMPLOYING-COMPANY"
00270 "WHERE EMPLOYING-TOWN EQ '1'"
00271 FUNCTION DEDUCTION MONEY '(C110 - 5.50)'
00272 DELIMITER /
00273 USES EMPLOYEE-SALARY
00274 COMMBLOCK-NAME BLK1
00275 DATASETS MULTIPLE-VALUES-TABLE DEVICE "EMP1"
00276 PAGE-SIZE 1000
00277 HIERARCHY-TABLE DEVICE "EMP1"
00278 PAGE-SIZE 1000
00279
DM01132I DIVISION SUCCESSFULLY REPLACED
DM01296I ENCODING OF DIVISION
00100 S2K-DATABASE
00200 CONTAINS DEPARTMENT,
00300 EMPLOYEE-PORTFOLIO C 100 PARENT DEPARTMENT,
00400 TRANSACTIONS C 200 PARENT EMPLOYEE-PORTFOLIO
00500 ITEM-COMPONENT-NUMBERS
00600 2 IS EMPLOYEE-DEPARTMENT,
00700 201 IS TRANSACTION-CODE,
00800 202 IS TRANSACTION-DATE,
00900 203 IS TRANSACTION-DATA
01000 STRING EMPBLOC COMPONENT-NUMBER 1000
01100 "PRINT EMPLOYEE-NAME, EMPLOYING-COMPANY"
01200 "WHERE EMPLOYING-TOWN EQ '1'"
01300 FUNCTION DEDUCTION MONEY '(C110 - 5.50)'
01400 DELIMITER /
01500 USES EMPLOYEE-SALARY
01600 COMMBLOCK-NAME BLK1
01700 DATASETS MULTIPLE-VALUES-TABLE DEVICE "EMP1"
01800 PAGE-SIZE 1000
01900 HIERARCHY-TABLE DEVICE "EMP1"
02000 PAGE-SIZE 1000
DM01280I DIVISION SUCCESSFULLY ENCODED
```

Then change DIVISION back to its former definition to leave the dictionary in an unchanged state.

CHAPTER 8

DATAMANAGER/IDMS DEMONSTRATION (X700)

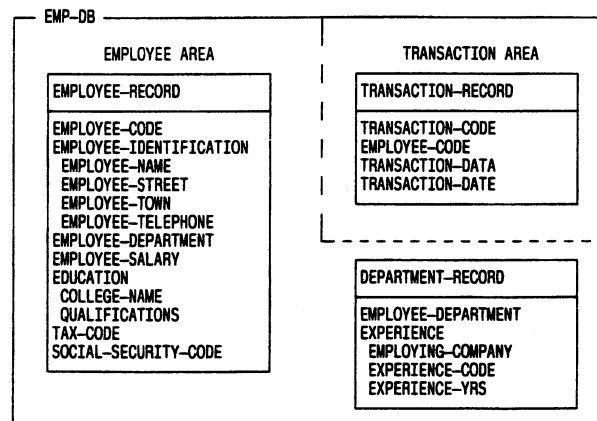
COMMANDS DEMONSTRATED

STATUS "IDMS".
 AUTHORITY "ANALYST".
 LIST IDMS-DATABASES.
 WHAT USES EMP-DB.
 REPORT EMP-DB.
 REPORT EMPSCHEMA.
 KEEP WHAT CONSTITUTES EMP-DB.
 LIST KEPT-DATA ALPHABETICALLY.
 BULK PRINT KEPT-DATA ALPHABETICALLY.
 WHICH IDMS-RECORDS CONSTITUTE EMP-DB.
 REPORT EMPLOYEE-RECORD.
 PRODUCE IDMS SUBSCHEMA FROM EMPSCHEMA
 AS EMPSCHEM NOGEN PRINT.

DESCRIPTION

DATAMANAGER EXAMPLE DICTIONARY - IDMS DATABASE SUPPLEMENT

To show the IDMS database defined in the DATAMANAGER example dictionary in status IDMS, and to show various forms of documentation and interrogation and source language generation outputs from it.



EMP-DB is intended for simple demonstration only.

00047 STATUS "IDMS".
 DMO0096I NON-FROZEN STATUS IDMS RECOGNISED

00048 AUTHORITY "ANALYST".
 DMO1060I AUTHORITY RECOGNISED

00049 LIST IDMS-DATABASES.

MEMBER NAME	TYPE	USAGE	CONDITION	AC	ALT	REM	OWNER
-------------	------	-------	-----------	----	-----	-----	-------

EMP-DB	IDMS-DATABASE	1	SCE	ENC	YES	YES	YES
--------	---------------	---	-----	-----	-----	-----	-----

LIST CONTAINS	1 IDMS-DATABASE
---------------	-----------------

00050 WHAT USES EMP-DB.

IDMS-DATABASE	EMP-DB IS USED BY
IDMS-SUBSCHEMA	EMPSCHEMA

IDMS-SUBSCHEMA	EMPSCHEMA IS USED BY NO MEMBERS
----------------	---------------------------------

X700

00051 REPORT EMP-DB.

Report EMP-DB.

REPORT OF IDMS-DATABASE EMP-DB

EDITION 3 ENCODED BY MASTER AT 12.20.50 ON 25 SEP 1981
STATUS IDMS
PROTECTION: NONE

THIS MEMBER IS DIRECTLY REFERRED TO ONCE
THIS MEMBER CONTAINS 6 DIRECT REFERENCES

IDMS-DATABASE EMP-DB

DATASET EMPLOYEE-FILE ASSIGN EMP1 DEVICE 3330
DATASET TRANSACTION-FILE ASSIGN EMP2 DEVICE 3330

JOURNAL ASSIGN EMP3 DEVICE 3330

AREAS EMPLOYEE
TRANSACTION

SETS DEPARTMENT-SET

STAND-ALONE TRANSACTION-RECORD

00052 REPORT EMPSchema.

REPORT OF IDMS-SUBSCHEMA EMPSchema

EDITION 9 ENCODED BY MASTER AT 13.20.34 ON 21 JAN 1982
STATUS IDMS
PROTECTION: NONE

THIS MEMBER IS DIRECTLY REFERRED TO 0 TIMES
THIS MEMBER CONTAINS 6 DIRECT REFERENCES

IDMS-SUBSCHEMA EMPSchema

ACCESSES EMP-DB

AREA EMPLOYEE
OPTIONS
ALLOW RETRIEVAL

RECORD DEPARTMENT-RECORD

VIEW EMPVIEW OPTIONS
DISALLOW MODIFY

SET DEPARTMENT-SET

DMCL EMPDCL
I-O BUFFER EMPBUFF PAGES 4 SIZE 2056
AREA EMPLOYEE

X700

00053 KEEP WHAT CONSTITUTES EMP-DB.
 DMO1541I 34 ENTRIES ADDED TO KEPT-DATA LIST

Produce a list of contained members

00054 LIST KEPT-DATA ALPHABETICALLY.

LIST OF SELECTED MEMBERS

MEMBER NAME	TYPE	USAGE	CONDITION	AC	ALT	REM	OWNER
COLLEGE-NAME	ITEM	1	SCE	ENC	YES	YES	YES
DEPARTMENT-RECORD	IDMS-RECORD	2	SCE	ENC	YES	YES	YES
DEPARTMENT-SET	IDMS-SET	2	SCE	ENC	YES	YES	YES
EDUCATION	GROUP	2	SCE	ENC	YES	YES	YES
EMPLOYEE	IDMS-AREA	5	SCE	ENC	YES	YES	YES
EMPLOYEE-CODE	ITEM	7	SCE	ENC	YES	YES	PERSONNEL
EMPLOYEE-DEPARTMENT	ITEM	7	SCE	ENC	YES	YES	PERSONNEL
EMPLOYEE-FILE	FILE	2	*	DUM	YES	YES	YES
EMPLOYEE-IDENTIFICATION	GROUP	2	SCE	ENC	YES	YES	YES
EMPLOYEE-NAME	ITEM	2	SCE	ENC	YES	YES	PERSONNEL
EMPLOYEE-RECORD	IDMS-RECORD	2	SCE	ENC	YES	YES	YES
EMPLOYEE-SALARY	ITEM	4	SCE	ENC	YES	YES	PERSONNEL
EMPLOYEE-STREET	ITEM	1	SCE	ENC	YES	YES	YES
EMPLOYEE-TELEPHONE	ITEM	1	SCE	ENC	YES	YES	YES
EMPLOYEE-TOWN	ITEM	1	SCE	ENC	YES	YES	YES
EMPLOYING-COMPANY	ITEM	1	SCE	ENC	YES	YES	YES
EXPERIENCE	GROUP	2	SCE	ENC	YES	YES	YES
EXPERIENCE-CODE	ITEM	1	SCE	ENC	YES	YES	YES
EXPERIENCE-YRS	ITEM	1	SCE	ENC	YES	YES	YES
QUALIFICATIONS	ITEM	1	SCE	ENC	YES	YES	YES
SOCIAL-SECURITY-CODE	ITEM	3	SCE	ENC	YES	YES	PERSONNEL
STANDARD-DATE	ITEM	3	SCE	ENC	YES	YES	YES
TAX-CODE	ITEM	3	SCE	ENC	YES	YES	PERSONNEL
TRANSACTION	IDMS-AREA	2	SCE	ENC	YES	YES	YES
TRANSACTION-CODE	ITEM	3	SCE	ENC	YES	YES	YES
TRANSACTION-DATA	ITEM	2	SCE	ENC	YES	YES	YES
TRANSACTION-DATE	ITEM	2	SCE	ENC	YES	YES	YES
TRANSACTION-FILE	FILE	2	*	DUM	YES	YES	YES
TRANSACTION-RECORD	IDMS-RECORD	1	SCE	ENC	YES	YES	YES

LIST CONTAINS 18 ITEMS
 3 GROUPS
 3 IDMS-RECORDS
 2 IDMS-AREAS
 2 FILES
 1 IDMS-SET
 2 DUMMIES
 29 MEMBERS IN TOTAL

X700

00055 BULK PRINT KEPT-DATA ALPHABETICALLY.

... and a print of contained members.

00100 PRINT OF COLLEGE-NAME
00200 ITEM
00300 HELD-AS CHARACTER 30
00400 REPORTED-AS PICTURE 'X(30)'
07000 ENTERED-AS CHARACTER 30
08000 ALIAS LOW-LEVEL 'EMPCOL'
09000 CATALOG 'EMPLOYEE', 'DESCRIPTION'
09100 DESCRIPTION
END OF PRINT

00100 PRINT OF DEPARTMENT-RECORD
00200 IDMS-RECORD
00300 IDENTITY 200
00400 STORED USING KEY EMPLOYEE-DEPARTMENT
00500 DUPLICATES DISALLOWED
00600 AREA EMPLOYEE FROM 101 TO 130
00700 CONTAINS EMPLOYEE-DEPARTMENT,
EXPERIENCE
END OF PRINT

00100 PRINT OF DEPARTMENT-SET
00200 IDMS-SET
00300 ORDER NEXT
00400 LINKED-PRIOR
00500 OWNER DEPARTMENT-RECORD NEXT-POSITION 1
00600 PRIOR-POSITION 2
00700 MEMBER EMPLOYEE-RECORD NEXT-POSITION 1
00800 PRIOR-POSITION 2
OWNER-POSITION 5
END OF PRINT

00100 PRINT OF EDUCATION
00150 GROUP
00200 HELD-AS
00300 CONTAINS COLLEGE-NAME,
QUALIFICATIONS
07000 ALIAS LOW-LEVEL 'EMPEDU'
08000 DESCRIPTION
09100 'EDUCATION RECEIVED BY EMPLOYEE INCLUDING PROFESSIONAL TRAINING'
10000 NOTE
10100 'ACCURACY'
10200 ' ALL COLLEGE CERTIFICATES CHECKED'
10300 ' AND REFERENCES OBTAINED'
END OF PRINT

00100 PRINT OF EMPLOYEE
00200 IDMS-AREA
00300 PAGES 101 TO 200 OF EMPLOYEE-FILE
BLOCK 1 TO 100
END OF PRINT

00100 PRINT OF EMPLOYEE-CODE
00200 ITEM
00300 ENTERED-AS ALPHANUMERIC 4
00400 HELD-AS NUMERIC 4 CONTENTS RANGE 1000 TO 8000
07000 REPORTED-AS PICTURE '9999'
08000 ALIAS LOW-LEVEL 'EMPCODE'
09000 CATALOG 'EMPLOYEE', 'CODE'
09100 DESCRIPTION
10000 'STANDARD EMPLOYEE CODE'
10100 NOTE
10200 'INPUT FORM'
' EMPLOYEE-TRANSACTIONS-FORM'
END OF PRINT

00100 PRINT OF EMPLOYEE-DEPARTMENT
00200 ITEM
00300 HELD-AS NUMERIC-CHARACTER 3 CONTENTS
00400 RANGE 100 TO 150
00500 ELSE IS 180
00600 ELSE RANGE 200 TO 900
00700 REPORTED-AS PICTURE '999'
07000 ENTERED-AS NUMERIC-CHARACTER 3
08000 ALIAS LOW-LEVEL 'EMPDEPT'
09000 CATALOG 'EMPLOYEE', 'CODE'
09100 DESCRIPTION
'EMPLOYEE DEPARTMENT CODE'
END OF PRINT

00100 PRINT OF EMPLOYEE-IDENTIFICATION
00150 GROUP
00200 HELD-AS
00300 CONTAINS EMPLOYEE-NAME,
EMPLOYEE-STREET,

X700

```

00400      EMPLOYEE-TOWN,
00500      EMPLOYEE-TELEPHONE
07000      ALIAS LOW-LEVEL 'EMPIDEN'
09000      DESCRIPTION
09100      'NAME, ADDRESS AND TELEPHONE NUMBER OF AN EMPLOYEE'
10000      NOTE
10100      'ACCURACY'
10200      'NAME CHECKED AGAINST BIRTH CERTIFICATE'
10300      'ADDRESS AND TELEPHONE NUMBER NOT CHECKED'
          END OF PRINT

```

```

          PRINT OF EMPLOYEE-NAME
00100      ITEM
00200      HELD-AS CHARACTER 30
00300      REPORTED-AS PICTURE 'X(10)B(5)X(10)B(3)X(10)'
00400      ENTERED-AS CHARACTER 30
07000      ALIAS LOW-LEVEL 'EMPNAME'
08000      CATALOG 'EMPLOYEE', 'DESCRIPTION'
09000      DESCRIPTION
09100      'EMPLOYEE SURNAME, FIRST NAME AND MIDDLE NAME'
          END OF PRINT

```

```

          PRINT OF EMPLOYEE-RECORD
00100      IDMS-RECORD
00200      IDENTITY 100
00300      STORED USING KEY EMPLOYEE-CODE
00400      DUPLICATES DISALLOWED
00500      AREA EMPLOYEE FROM 131 TO 200
00600      CONTAINS EMPLOYEE-CODE,
00700      EMPLOYEE-IDENTIFICATION,
00800      EMPLOYEE-DEPARTMENT,
00900      EMPLOYEE-SALARY,
01000      EDUCATION,
01100      TAX-CODE,
01200      SOCIAL-SECURITY-CODE
          END OF PRINT

```

```

          PRINT OF EMPLOYEE-SALARY
00100      ITEM
00200      HELD-AS NUMERIC 5 CONTENTS RANGE 10000 TO 50000
00300      REPORTED-AS PICTURE 'E899,999'
00400      ENTERED-AS NUMERIC 5
07000      ALIAS LOW-LEVEL 'EMPSAL'
08000      CATALOG 'SALARY', 'NUMERIC'
09000      DESCRIPTION
09100      'YEARLY SALARY. INCLUDES GEOGRAPHICAL ALLOWANCES'
          END OF PRINT

```

```

          PRINT OF EMPLOYEE-STREET
00100      ITEM
00200      HELD-AS CHARACTER 40
00300      REPORTED-AS PICTURE 'X(40)'
00400      ENTERED-AS CHARACTER 40
07000      ALIAS LOW-LEVEL 'EMPSTR'
08000      CATALOG 'EMPLOYEE', 'DESCRIPTION'
09000      DESCRIPTION
09100      'EMPLOYEE STREET NAME INCLUDING ANY APARTMENT NUMBER'
          END OF PRINT

```

```

          PRINT OF EMPLOYEE-TELEPHONE
00100      ITEM
00200      HELD-AS NUMERIC 10
00300      REPORTED-AS PICTURE '9998899989999'
00400      ENTERED-AS NUMERIC-CHARACTER 10
07000      ALIAS LOW-LEVEL 'EMPTELNO'
08000      CATALOG 'EMPLOYEE', 'DESCRIPTION'
09000      DESCRIPTION
09100      'EMPLOYEE TELEPHONE NUMBER INCLUDING CODE'
          END OF PRINT

```

```

          PRINT OF EMPLOYEE-TOWN
00100      ITEM
00200      HELD-AS CHARACTER 20
00300      ENTERED-AS CHARACTER 20
00400      REPORTED-AS PICTURE 'X(20)'
07000      ALIAS LOW-LEVEL 'EMPTOWN'
08000      CATALOG 'EMPLOYEE', 'DESCRIPTION'
09000      DESCRIPTION
09100      'EMPLOYEE HOME TOWN NAME AND POST CODE'
          END OF PRINT

```

```

          PRINT OF EMPLOYING-COMPANY
00100      ITEM
00200      ENTERED-AS CHARACTER 30
00300      HELD-AS CHARACTER 30
00400      REPORTED-AS PICTURE 'X(30)'
07000      ALIAS LOW-LEVEL 'EMPEMP'
08000      CATALOG 'EMPLOYEE', 'DESCRIPTION'

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X700

```

09000 DESCRIPTION
09100 'NAME OF OUTSIDE COMPANY OR INTERNAL DEPARTMENT OF THIS ORGANISATION'
      END OF PRINT

      PRINT OF EXPERIENCE
00100 GROUP
00150 HELD-AS
00200 CONTAINS EMPLOYING-COMPANY,
00300 EXPERIENCE-CODE,
00400 EXPERIENCE-YRS
07000 ALIAS LOW-LEVEL 'EMPEXP'
09000 DESCRIPTION
09100 'EXPERIENCE GAINED (INCLUDING EXPERIENCE GAINED WITHIN THIS ORGANISATION)'
10000 NOTE
10100 'ACCURACY'
10200 ' REFERENCES OBTAINED FROM LAST TWO'
10300 ' EMPLOYING ORGANISATIONS'
      END OF PRINT

```

```

      PRINT OF EXPERIENCE-CODE
00100 ITEM
00200 HELD-AS NUMERIC 2 CONTENTS RANGE 01 TO 99
00300 ENTERED-AS NUMERIC-CHARACTER 2
00400 REPORTED-AS PICTURE '99'
07000 ALIAS LOW-LEVEL 'EMPOST'
08000 CATALOG 'EMPLOYEE', 'CODE'
09000 DESCRIPTION
09100 'EXPERIENCE CODE TAKEN FROM STANDARD CODING BOOK'
      END OF PRINT

```

```

      PRINT OF EXPERIENCE-YRS
00100 ITEM
00200 HELD-AS NUMERIC 2 CONTENTS
00300 RANGE 01 TO 10
00400 ELSE RANGE 01 TO 15
00500 IF EMPLOYEE-DEPARTMENT EQ 180
00600 ENTERED-AS NUMERIC-CHARACTER 2
00700 REPORTED-AS PICTURE '99'
07000 ALIAS LOW-LEVEL 'EMPYRS'
08000 CATALOG 'EMPLOYEE', 'NUMERIC'
09000 DESCRIPTION
09100 'NUMBER OF YEARS EXPERIENCE'
      END OF PRINT

```

```

      PRINT OF QUALIFICATIONS
00100 ITEM
00200 HELD-AS CHARACTER 10
00300 ENTERED-AS CHARACTER 10
00400 REPORTED-AS PICTURE 'X(10)'
07000 ALIAS LOW-LEVEL 'EMPQUA'
08000 CATALOG 'EMPLOYEE', 'DESCRIPTION'
09000 DESCRIPTION
09100 'QUALIFICATION OBTAINED AND DATE OF CERTIFICATE (SHOWN AS MM/YY)'
      END OF PRINT

```

PRINT OF SOCIAL-SECURITY-CODE

```

00100 ITEM
00200 ENTERED-AS 1 ALPHANUMERIC 15
00300 ENTERED-AS 2 CHARACTER 15
00400 HELD-AS ALPHANUMERIC 15
00500 REPORTED-AS PICTURE 'XXXBX(5)B999BXXXX'
07000 ALIAS LOW-LEVEL 'EMPSSC'
08000 CATALOG 'SALARY', 'CODE'
09000 DESCRIPTION
09100 'CURRENT EMPLOYEE SOCIAL SECURITY CODE'
      END OF PRINT

```

```

      PRINT OF STANDARD-DATE
00100 ITEM
00200 ENTERED-AS CHARACTER 8 CONTENTS FORMAT 'DD/MM/YY'
00300 HELD-AS NUMERIC-CHARACTER 6
00400 REPORTED-AS PICTURE '99X99X99' CONTENTS FORMAT 'DD/MM/YY'
07000 ALIAS LOW-LEVEL 'STDATE'
08000 CATALOG 'EMPLOYEE', 'DATE'
09000 DESCRIPTION
09100 'PERSONNEL STANDARD DATE FORMATS'
      END OF PRINT

```

```

      PRINT OF TAX-CODE
00100 ITEM
00200 HELD-AS NUMERIC 4 CONTENTS IS 538
00300 ELSE IS 670
00400 ELSE RANGE 1000 TO 6000
00500 ENTERED-AS NUMERIC-CHARACTER 4

```

X700

```
00600 REPORTED-AS PICTURE "9999"
07000 ALIAS LOW-LEVEL 'EMPTAX'
08000 CATALOG 'SALARY', 'CODE'
09000 DESCRIPTION
09100 'EMPLOYEE TAX CODE SENT BY TAX OFFICE'
10000 NOTE
10100 'ACCURACY'
10200 ' TAX CODE IS ONE MONTH OUT OF DATE'
END OF PRINT

PRINT OF TRANSACTION
00100 IDMS-AREA
00200 PAGES 501 TO 600 OF TRANSACTION-FILE
00300 BLOCK 1 TO 100
END OF PRINT

PRINT OF TRANSACTION-CODE
00100 ITEM
00200 ENTERED-AS CHARACTER 2
00300 HELD-AS NUMERIC 2 CONTENTS RANGE 10 TO 90
00400 REPORTED-AS PICTURE '99'
07000 ALIAS LOW-LEVEL 'EMPTRANS'
08000 CATALOG 'EMPLOYEE', 'CODE'
09000 DESCRIPTION
09100 'EMPLOYEE TRANSACTION CODE'
END OF PRINT

PRINT OF TRANSACTION-DATA
00100 ITEM
00200 ENTERED-AS CHARACTER 40
00300 HELD-AS CHARACTER 40
00400 REPORTED-AS PICTURE "X(40)"
07000 ALIAS LOW-LEVEL 'EMPTRADA'
08000 CATALOG 'EMPLOYEE', 'DESCRIPTION', 'NUMERIC'
09000 DESCRIPTION
09100 'TRANSACTION DATA INPUT VIA V.D.U.'
10000 NOTE
10100 'INPUT FORM'
10200 ' EMPLOYEE-TRANSACTIONS-FORM'
10300 '
10400 'ACCURACY'
10500 ' PERSONNEL DEPARTMENT IS RESPONSIBLE'
10600 ' FOR ENSURING THAT DATA IS COMPLETELY'
10700 ' CORRECT'
END OF PRINT

PRINT OF TRANSACTION-DATE
00100 ITEM
00200 ENTERED-AS NAME STANDARD-DATE
00300 HELD-AS NAME STANDARD-DATE
00400 REPORTED-AS NAME STANDARD-DATE
07000 ALIAS LOW-LEVEL 'EMPDTE'
08000 CATALOG 'EMPLOYEE', 'DATE'
09000 DESCRIPTION
09100 'EMPLOYEE TRANSACTION DATE'
10000 NOTE
10100 'ACCURACY'
10200 ' DATE IS TAKEN FROM OPERATING SYSTEM'
10300 ' SUPERVISOR AT THE TIME OF INPUT'
END OF PRINT

PRINT OF TRANSACTION-RECORD
00100 IDMS-RECORD
00200 IDENTITY 300
00300 STORED USING KEY TRANSACTION-CODE
00400 DUPLICATES DISALLOWED
00500 AREA TRANSACTION
00600 CONTAINS TRANSACTION-CODE,
00700 EMPLOYEE-CODE,
00800 TRANSACTION-DATA,
00900 TRANSACTION-DATE
END OF PRINT
```

27 MEMBERS PROCESSED BY BULK PRINT

X700

00056 WHICH IDMS-RECORDS CONSTITUTE EMP-DB.

Interrogation of IDMS members.

THE FOLLOWING IDMS-RECORDS SATISFY THE GIVEN CRITERIA

IDMS-RECORD
IDMS-RECORD
IDMS-RECORD

DEPARTMENT-RECORD
EMPLOYEE-RECORD
TRANSACTION-RECORD

3 MEMBERS IN TOTAL

00057 REPORT EMPLOYEE-RECORD.

REPORT OF IDMS-RECORD EMPLOYEE-RECORD

EDITION 2 ENCODED BY ANALYST AT 16.56.43 ON 12 MAY 1980
STATUS IDMS
PROTECTION: NONE

THIS MEMBER IS DIRECTLY REFERRED TO 2 TIMES
THIS MEMBER CONTAINS 9 DIRECT REFERENCES

IDMS-RECORD EMPLOYEE-RECORD

IDENTITY 100

STORED USING KEY EMPLOYEE-CODE DUPLICATES DISALLOWED

AREA EMPLOYEE FROM 131 TO 200

CONTAINS

ITEM EMPLOYEE-CODE
GROUP EMPLOYEE-IDENTIFICATION
ITEM EMPLOYEE-DEPARTMENT
ITEM EMPLOYEE-SALARY
GROUP EDUCATION
ITEM TAX-CODE
ITEM SOCIAL-SECURITY-CODE

X700

00058 PRODUCE IDMS SUBSCHEMA FROM EMPSHEMA
00059 AS EMPSCHEM NOGEN PRINT.

Produce IDMS.

DM02375W NOSEQ
SUBSCHEMA IDENTIFICATION DIVISION.
EMPSHEMA HAS BEEN SHORTENED TO EMPSHEMA
SUBSCHEMA NAME IS EMPSHEMA OF SCHEMA NAME EMPDB.
DM02375W EMP-DB HAS BEEN SHORTENED TO EMPDB
DEVICE-MEDIA NAME IS EMPDCL OF SCHEMA NAME EMPDB.
AUTHOR. ANALYST.
DATE. 10/05/82.
INSTALLATION. INSTALLATION NAME.
SUBSCHEMA DATA DIVISION.
AREA SECTION.
COPY EMPLOYEE AREA
PRIVACY LOCK FOR RETRIEVAL IS 'YES'.
RECORD SECTION.
COPY DEPARTMET-RECORD RECORD.
DM02375W DEPARTMENT-RECORD HAS BEEN SHORTENED TO DEPARTMET-RECORD
01 EMPLOYEE-RECORD
VIEW-ID IS EMPVIEW
PRIVACY LOCK FOR MODIFY IS 'NO'.
02 EMPLOYEE-CODE.
02 EMPLOYEE-SALARY.
02 EMPLOYEE-DEPARTMENT.
SET SECTION.
COPY DEPARTMENT-SET SET.
DM02217I EMPSCHEM SUCCESSFULLY GENERATED

CHAPTER 9

DATAMANAGER/MARK-IV DEMONSTRATION (X750)

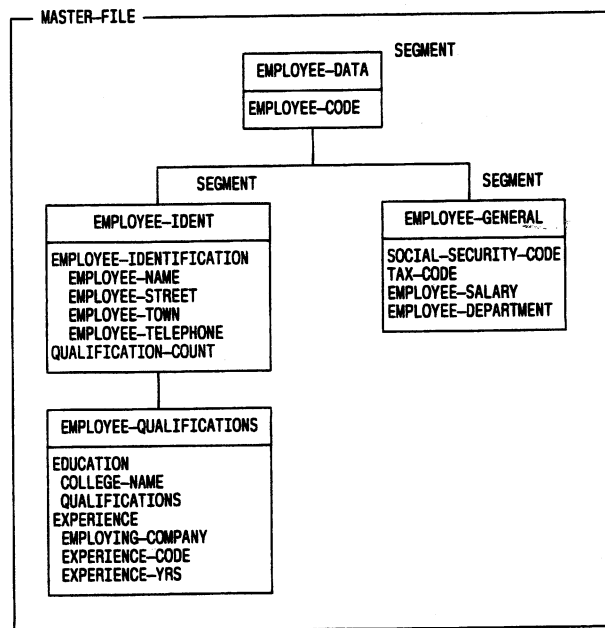
COMMANDS DEMONSTRATED

STATUS "MKIV".
 AUTHORITY "ANALYST".
 LIST MARKIV-FILES.
 REPORT MASTER-FILE.
 KEEP WHAT CONSTITUTES MASTER-FILE.
 LIST KEPT-DATA ALPHABETICALLY.
 BULK PRINT KEPT-DATA ALPHABETICALLY.
 WHICH MARKIV-SEGMENTS CONSTITUTE MASTER-FILE.
 WHICH MEMBERS USE QUALIFICATION-COUNT VIA COUNT-FIELD.
 PRODUCE MARK-IV FROM MASTER-FILE NOGEN PRINT
 ALIAS LOW-LEVEL USING HELD-AS.

DESCRIPTION

DATAMANAGER EXAMPLE DICTIONARY - MARK IV SUPPLEMENT

To show the generation of MARK IV file definitions from the
 DATAMANAGER example dictionary from the MARK IV file MASTER-FILE.



00118 STATUS "MKIV".
 DM00096I NON-FROZEN STATUS MKIV RECOGNISED

00119 AUTHORITY "ANALYST".
 DM01060I AUTHORITY RECOGNISED

00120 LIST MARKIV-FILES.

MEMBER NAME	TYPE	USAGE	CONDITION	AC	ALT	REM	OWNER
MASTER-FILE	MARKIV FILE	0	SCE ENC YES YES YES				
LIST CONTAINS	1 MARKIV FILE						

X750

00121 REPORT MASTER-FILE.

Report MASTER-FILE.

REPORT OF MARKIV FILE MASTER-FILE

EDITION 6 ENCODED BY MASTER AT 16.30.58 ON 21 JAN 1982
STATUS MKIV
PROTECTION: NONE

ALIAS
LOW-LEVEL EMPMFILE

CATALOGUED AS
MASTER
DISC

DESCRIPTION
THIS FILE STORES PERSONAL DETAILS OF EMPLOYEE

NOTE
SECURITY
AT THE END OF THE WEEKLY UPDATE RUN,
DUMP THE FILE ON A TAPE

THIS MEMBER IS DIRECTLY REFERRED TO 0 TIMES
THIS MEMBER CONTAINS 8 DIRECT REFERENCES

MARKIV FILE MASTER-FILE

GENERATION-CYCLE 3

RETENTION-PERIOD 1 MONTHS

ORGANISATION IS DIRECT
BLOCKING IS FIXED
BLOCK SIZE IS 205
RECORD SIZE IS 1000
LABELS ARE STANDARD-LABELS
DEVICE DISK 2314

FORM HELD-AS
CONTAINS EMPLOYEE-DATA
EMPLOYEE-IDENT PARENT EMPLOYEE-DATA
EMPLOYEE-QUALIFICATIONS PARENT EMPLOYEE-IDENT COUNT-FIELD QUALIFICATION-COUNT
EMPLOYEE-GENERAL PARENT EMPLOYEE-DATA

X750

00122 KEEP WHAT CONSTITUTES MASTER-FILE.
DM01541I 22 ENTRIES ADDED TO KEPT-DATA LIST

Produce a list of contained members

00123 LIST KEPT-DATA ALPHABETICALLY.

LIST OF SELECTED MEMBERS
MEMBER NAME

MEMBER NAME	TYPE	USAGE	CONDITION	AC	ALT	REM	OWNER
COLLEGE-NAME	ITEM	2	SCE	ENC	YES	YES	YES
EDUCATION	GROUP	2	SCE	ENC	YES	YES	YES
EMPLOYEE-CODE	ITEM	6	SCE	ENC	YES	YES	PERSONNEL
EMPLOYEE-DATA	MARKIV SEG	3	SCE	ENC	YES	YES	YES
EMPLOYEE-DEPARTMENT	ITEM	4	SCE	ENC	YES	YES	PERSONNEL
EMPLOYEE-GENERAL	MARKIV SEG	1	SCE	ENC	YES	YES	YES
EMPLOYEE-IDENT	MARKIV SEG	2	SCE	ENC	YES	YES	YES
EMPLOYEE-IDENTIFICATION	GROUP	2	SCE	ENC	YES	YES	YES
EMPLOYEE-NAME	ITEM	3	SCE	ENC	YES	YES	PERSONNEL
EMPLOYEE-QUALIFICATIONS	GROUP	1	SCE	ENC	YES	YES	YES
EMPLOYEE-SALARY	ITEM	3	SCE	ENC	YES	YES	PERSONNEL
EMPLOYEE-STREET	ITEM	1	SCE	ENC	YES	YES	YES
EMPLOYEE-TELEPHONE	ITEM	1	SCE	ENC	YES	YES	YES
EMPLOYEE-TOWN	ITEM	1	SCE	ENC	YES	YES	YES
EMPLOYING-COMPANY	ITEM	1	SCE	ENC	YES	YES	YES
EXPERIENCE	GROUP	2	SCE	ENC	YES	YES	YES
EXPERIENCE-CODE	ITEM	1	SCE	ENC	YES	YES	YES
EXPERIENCE-YRS	ITEM	1	SCE	ENC	YES	YES	YES
QUALIFICATION-COUNT	ITEM	2	SCE	ENC	YES	YES	YES
QUALIFICATIONS	ITEM	1	SCE	ENC	YES	YES	YES
SOCIAL-SECURITY-CODE	ITEM	4	SCE	ENC	YES	YES	PERSONNEL
TAX-CODE	ITEM	3	SCE	ENC	YES	YES	PERSONNEL

LIST CONTAINS 15 ITEMS
4 GROUPS
3 MARKIV SEGMENTS
22 MEMBERS IN TOTAL

00124 BULK PRINT KEPT-DATA ALPHABETICALLY.

... and a print of contained members.

PRINT OF COLLEGE-NAME
00100 ITEM
00200 HELD-AS CHARACTER 30
00300 REPORTED-AS PICTURE 'X(30)'
00400 ENTERED-AS CHARACTER 30
07000 ALIAS LOW-LEVEL 'EMPCOL'
08000 CATALOG 'EMPLOYEE', 'DESCRIPTION'
09000 DESCRIPTION
09100 'NAME OF COLLEGE/FACULTY'
END OF PRINT

PRINT OF EDUCATION
00100 GROUP
00150 HELD-AS
00200 CONTAINS COLLEGE-NAME,
00300 QUALIFICATIONS
07000 ALIAS LOW-LEVEL 'EMPEDU'
09000 DESCRIPTION
09100 'EDUCATION RECEIVED BY EMPLOYEE INCLUDING PROFESSIONAL TRAINING'
10000 NOTE
10100 'ACCURACY'
10200 ' ALL COLLEGE CERTIFICATES CHECKED'
10300 ' AND REFERENCES OBTAINED'
END OF PRINT

PRINT OF EMPLOYEE-CODE
00100 ITEM
00200 ENTERED-AS ALPHANUMERIC 4
00300 HELD-AS NUMERIC 4 CONTENTS RANGE 1000 TO 8000
00400 REPORTED-AS PICTURE '9999'
00410 HEADINGS 'EMPLOYEE', 'CODE'
07000 ALIAS LOW-LEVEL 'EMPCODE'
08000 CATALOG 'EMPLOYEE', 'CODE'
09000 DESCRIPTION
09100 'STANDARD EMPLOYEE CODE'
10000 NOTE
10100 'INPUT FORM'
10200 ' EMPLOYEE-TRANSACTIONS-FORM'
END OF PRINT

PRINT OF EMPLOYEE-DATA
00100 MARK-IV-SEGMENT
00200 HELD-AS
00300 CONTAINS EMPLOYEE-CODE
00400 KEY EMPLOYEE-CODE ASCENDING
07000 ALIAS LOW-LEVEL 'EMPHISDT'
09000 DESCRIPTION
09100 'EMPLOYEE DATA'
END OF PRINT

PRINT OF EMPLOYEE-DEPARTMENT

X750

```

00100 ITEM
00200 HELD-AS NUMERIC-CHARACTER 3 CONTENTS
00300 RANGE 100 TO 150
00400 ELSE IS 180
00500 ELSE RANGE 200 TO 900
00600 REPORTED-AS PICTURE '999'
00610 HEADINGS 'EMPLOYEE', 'DEPT.'
00700 ENTERED-AS NUMERIC-CHARACTER 3
07000 ALIAS LOW-LEVEL 'EMPDEPT'
08000 CATALOG 'EMPLOYEE', 'CODE'
09000 DESCRIPTION
09100 'EMPLOYEE DEPARTMENT CODE'
END OF PRINT

PRINT OF EMPLOYEE-GENERAL
00100 MARK-IV-SEGMENT
00200 HELD-AS
00300 CONTAINS SOCIAL-SECURITY-CODE,
00400 TAX-CODE,
00500 EMPLOYEE-SALARY,
00600 EMPLOYEE-DEPARTMENT
00700 KEY SOCIAL-SECURITY-CODE
07000 ALIAS LOW-LEVEL 'EMPGEN'
END OF PRINT

PRINT OF EMPLOYEE-IDENT
00100 MARK-IV-SEGMENT
00200 HELD-AS
00300 CONTAINS EMPLOYEE-IDENTIFICATION,
00400 QUALIFICATION-COUNT
00500 KEY EMPLOYEE-NAME
07000 ALIAS LOW-LEVEL 'EMPID'
END OF PRINT

PRINT OF EMPLOYEE-IDENTIFICATION
00100 GROUP
00150 HELD-AS
00200 CONTAINS EMPLOYEE-NAME,
00300 EMPLOYEE-STREET,
00400 EMPLOYEE-TOWN,
00500 EMPLOYEE-TELEPHONE
07000 ALIAS LOW-LEVEL 'EMPIDEN'
09000 DESCRIPTION
09100 'NAME, ADDRESS AND TELEPHONE NUMBER OF AN EMPLOYEE'
10000 NOTE
10100 'ACCURACY'
10200 'NAME CHECKED AGAINST BIRTH CERTIFICATE'
10300 'ADDRESS AND TELEPHONE NUMBER NOT CHECKED'
END OF PRINT

PRINT OF EMPLOYEE-NAME
00100 ITEM
00200 HELD-AS CHARACTER 30
00300 REPORTED-AS PICTURE 'X(10)B(5)X(10)B(3)X(10)'
00400 ENTERED-AS CHARACTER 30
07000 ALIAS LOW-LEVEL 'EMPNAME'
08000 CATALOG 'EMPLOYEE', 'DESCRIPTION'
09000 DESCRIPTION
09100 'EMPLOYEE SURNAME, FIRST NAME AND MIDDLE NAME'
END OF PRINT

PRINT OF EMPLOYEE-QUALIFICATIONS
00100 GROUP
00200 HELD-AS
00300 CONTAINS EDUCATION, EXPERIENCE
00400 KEY COLLEGE-NAME
07000 ALIAS LOW-LEVEL 'EMPQUAL'
END OF PRINT

PRINT OF EMPLOYEE-SALARY
00100 ITEM
00200 HELD-AS NUMERIC 5 CONTENTS RANGE 10000 TO 50000
00300 REPORTED-AS PICTURE '£B99,999'
00310 HEADINGS 'SALARY', '(IN £)'
07000 ALIAS LOW-LEVEL 'EMPSAL'
08000 CATALOG 'SALARY', 'NUMERIC'
09000 DESCRIPTION
09100 'YEARLY SALARY. INCLUDES GEOGRAPHICAL ALLOWANCES'
END OF PRINT

PRINT OF EMPLOYEE-STREET
00100 ITEM
00200 HELD-AS CHARACTER 40
00300 REPORTED-AS PICTURE "X(40)"
00400 ENTERED-AS CHARACTER 40
07000 ALIAS LOW-LEVEL 'EMPSTR'
08000 CATALOG 'EMPLOYEE', 'DESCRIPTION'
09000 DESCRIPTION

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X750

```
09100 'EMPLOYEE STREET NAME INCLUDING ANY APARTMENT NUMBER'
      END OF PRINT

      PRINT OF EMPLOYEE-TELEPHONE
00100 ITEM
00200 HELD-AS NUMERIC 10
00300 REPORTED-AS PICTURE '9998899989999'
00400 ENTERED-AS NUMERIC-CHARACTER 10
07000 ALIAS LOW-LEVEL 'EMPTLNO'
08000 CATALOG 'EMPLOYEE', 'DESCRIPTION'
09000 DESCRIPTION
09100 'EMPLOYEE TELEPHONE NUMBER INCLUDING CODE'
      END OF PRINT

      PRINT OF EMPLOYEE-TOWN
00100 ITEM
00200 HELD-AS CHARACTER 20
00300 ENTERED-AS CHARACTER 20
00400 REPORTED-AS PICTURE "X(20)"
07000 ALIAS LOW-LEVEL 'EMPTOWN'
08000 CATALOG 'EMPLOYEE', 'DESCRIPTION'
09000 DESCRIPTION
09100 'EMPLOYEE HOME TOWN NAME AND POST CODE'
      END OF PRINT

      PRINT OF EMPLOYING-COMPANY
00100 ITEM
00200 ENTERED-AS CHARACTER 30
00300 HELD-AS CHARACTER 30
00400 REPORTED-AS PICTURE "X(30)"
07000 ALIAS LOW-LEVEL 'EMPMP'
08000 CATALOG 'EMPLOYEE', 'DESCRIPTION'
09000 DESCRIPTION
09100 'NAME OF OUTSIDE COMPANY OR INTERNAL DEPARTMENT OF THIS ORGANISATION'
      END OF PRINT

      PRINT OF EXPERIENCE
00100 GROUP
00150 HELD-AS
00200 CONTAINS EMPLOYING-COMPANY,
00300 EXPERIENCE-CODE,
00400 EXPERIENCE-YRS
07000 ALIAS LOW-LEVEL 'EMPEXP'
09000 DESCRIPTION
09100 'EXPERIENCE GAINED (INCLUDING EXPERIENCE GAINED WITHIN THIS ORGANISATION)'
10000 NOTE
10100 'ACCURACY'
10200 ' REFERENCES OBTAINED FROM LAST TWO'
10300 ' EMPLOYING ORGANISATIONS'
      END OF PRINT

      PRINT OF EXPERIENCE-CODE
00100 ITEM
00200 HELD-AS NUMERIC 2 CONTENTS RANGE 01 TO 99
00300 ENTERED-AS NUMERIC-CHARACTER 2
00400 REPORTED-AS PICTURE "99"
07000 ALIAS LOW-LEVEL 'EMPOST'
08000 CATALOG 'EMPLOYEE', 'CODE'
09000 DESCRIPTION
09100 'EXPERIENCE CODE TAKEN FROM STANDARD CODING BOOK'
      END OF PRINT

      PRINT OF EXPERIENCE-YRS
00100 ITEM
00200 HELD-AS NUMERIC 2 CONTENTS
00300 RANGE 01 TO 10
00400 ELSE RANGE 01 TO 15
00500 IF EMPLOYEE-DEPARTMENT EQ 180
00600 ENTERED-AS NUMERIC-CHARACTER 2
00700 REPORTED-AS PICTURE "99"
07000 ALIAS LOW-LEVEL 'EMPYRS'
08000 CATALOG 'EMPLOYEE', 'NUMERIC'
09000 DESCRIPTION
09100 'NUMBER OF YEARS EXPERIENCE'
      END OF PRINT

      PRINT OF QUALIFICATION-COUNT
00100 ITEM
00200 HELD-AS BINARY 4
      END OF PRINT

      PRINT OF QUALIFICATIONS
00100 ITEM
00200 HELD-AS CHARACTER 10
00300 ENTERED-AS CHARACTER 10
00400 REPORTED-AS PICTURE "X(10)"
07000 ALIAS LOW-LEVEL 'EMPQUA'
```

X750

08000 CATALOG 'EMPLOYEE', 'DESCRIPTION'
09000 DESCRIPTION
09100 'QUALIFICATION OBTAINED AND DATE OF CERTIFICATE (SHOWN AS MM/YY)'

END OF PRINT

PRINT OF SOCIAL-SECURITY-CODE
00100 ITEM
00200 ENTERED-AS 1 ALPHANUMERIC 15
00300 ENTERED-AS 2 CHARACTER 15
00400 HELD-AS ALPHANUMERIC 15
00500 REPORTED-AS PICTURE 'XXXBX(5)B999BXXXX'
07000 ALIAS LOW-LEVEL 'EMPSSC'
08000 CATALOG 'SALARY', 'CODE'
09000 DESCRIPTION
09100 'CURRENT EMPLOYEE SOCIAL SECURITY CODE'
END OF PRINT

PRINT OF TAX-CODE
00100 ITEM
00200 HELD-AS NUMERIC 4 CONTENTS IS 538
00300 ELSE IS 670
00400 ELSE RANGE 1000 TO 6000
00500 ENTERED-AS NUMERIC-CHARACTER 4
00600 REPORTED-AS PICTURE '9999'
07000 ALIAS LOW-LEVEL 'EMPTAX'
08000 CATALOG 'SALARY', 'CODE'
09000 DESCRIPTION
09100 'EMPLOYEE TAX CODE SENT BY TAX OFFICE'
10000 NOTE
10100 'ACCURACY'
10200 'TAX CODE IS ONE MONTH OUT OF DATE'
END OF PRINT

22 MEMBERS PROCESSED BY BULK PRINT

00125 WHICH MARKIV-SEGMENTS CONSTITUTE MASTER-FILE.

Interrogation of MARK IV members.

THE FOLLOWING MARKIV SEGMENTS SATISFY THE GIVEN CRITERIA

MARKIV SEGMENT	EMPLOYEE-DATA
MARKIV SEGMENT	EMPLOYEE-IDENT
MARKIV SEGMENT	EMPLOYEE-GENERAL

3 MEMBERS IN TOTAL

00126 WHICH MEMBERS USE QUALIFICATION-COUNT VIA COUNT-FIELD.

THE FOLLOWING SELECTED MEMBERS SATISFY THE GIVEN CRITERIA

MARKIV FILE	MASTER-FILE
-------------	-------------

1 MEMBER IN TOTAL

X750

00127 PRODUCE MARK-IV FROM MASTER-FILE NOGEN PRINT
00128 ALIAS LOW-LEVEL USING HELD-AS.

Produce MARK IV file definitions.

```

EMPFILERC #
EMPFILEFDEMPFILE BK 205
EMPFILESEMPSDT 1 A
EMPFILELOEMPCODE 11 1 421 0
EMPFILELEMPCODE EMPLOYEE#
EMPFILELEMPCODE CODE #
EMPFILESEMPID 2
EMPFILELOEMPIDEN 22 1100C
EMPFILELOEMPNAME 22 1 30C1
EMPFILELOEMPSTR 22 31 40C
EMPFILELOEMPTOWN 22 71 20C
EMPFILELOEMPTELNO 22 91 10Z 0
DMO2273W QUALOUNT MEMBER NAME USED INSTEAD OF REQUESTED ALIAS
DMO2275W QUALIFICATION-COUNT HAS BEEN SHORTENED TO QUALOUNT
EMPFILELOQUALOUNT 22 101 2F 0 3
EMPFILESEMQUAL 3
EMPFILELOEMPEDU 33 1 40C
EMPFILELOEMPCOL 33 1 30C1
EMPFILELOEMPQUA 33 31 10C
EMPFILELOEMPEXP 33 41 34C
EMPFILELOEMPEMP 33 41 30C
EMPFILELOEMPPOST 33 71 2Z 0
EMPFILELOEMPYRS 33 73 2Z 0
EMPFILESEMPCEN 4
EMPFILELOEMPSSC 42 1 15C1
EMPFILELOEMPTAX 42 16 4Z 0
EMPFILELOEMPSAL 42 20 5Z 0 £
EMPFILELEMP1SAL SALARY#
EMPFILELEMP2SAL (IN £)#
EMPFILELOEMPDEPT 42 25 3Z 0
EMPFILELEMPDEPT EMPLOYEE#
EMPFILELEMPDEPT DEPT. #
DMO2217I MASTER-FILE SUCCESSFULLY GENERATED

```


CHAPTER 10

DATAMANAGER USER INTERFACE DEMONSTRATION (X790)

COMMANDS DEMONSTRATED

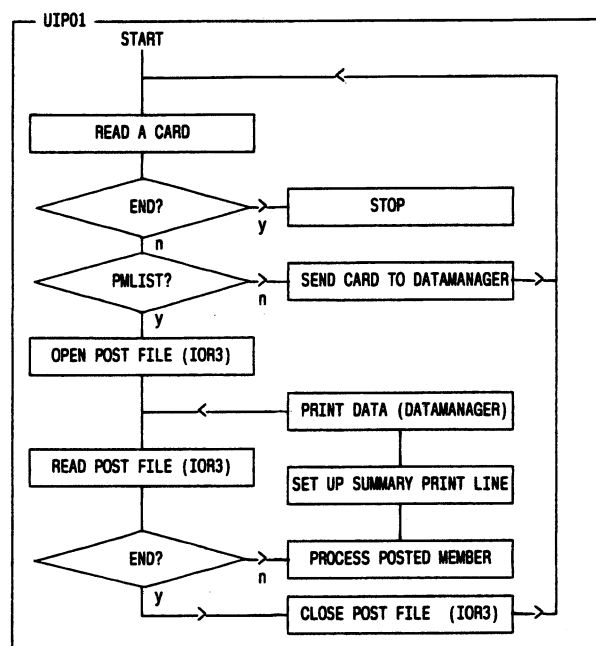
AUTHORITY "PROG".
 STATUS "CONV".
 KEEP AND LIST PROGRAMS, MODULES ALPHABETICALLY.
 POST ONTO POSTF.
 POST GLOSSARY KEPT-DATA GIVING NOTES.
 POST ONTO END.
 PMLIST.
 STATUS "UI".
 PRINT UIP01.
 PRINT IOR3.

DESCRIPTION

DATAMANAGER EXAMPLE DICTIONARY - USER INTERFACE SUPPLEMENT

The Personnel Manager has requested the Programmer to produce a system software Development Summary in tabular form to show the names of analysts/programmers responsible for each program/module together with development and amendment dates.

This demonstration shows sample output produced using the developed User Interface program, UIP01, together with the complete source coding.



UIP01 is intended for simple demonstration only.

00131 AUTHORITY "PROG".
 DM01060I AUTHORITY RECOGNISED

00132 STATUS "CONV".
 DM00096I NON-FROZEN STATUS CONV RECOGNISED

00133 KEEP AND LIST PROGRAMS, MODULES ALPHABETICALLY.

LIST OF SELECTED MEMBERS

MEMBER NAME	TYPE	USAGE	CONDITION	AC	ALT	REM	OWNER
P1I01	MODULE	1	SCE ENC	YES	YES	YES	YES
P1P01	PROGRAM	1	SCE ENC	YES	YES	YES	YES
P1S01	PROGRAM	1	SCE ENC	YES	YES	YES	YES
P1U01	PROGRAM	1	SCE ENC	YES	YES	YES	YES
P1U02	MODULE	2	SCE ENC	YES	YES	YES	YES
P1V01	PROGRAM	1	SCE ENC	YES	YES	YES	YES
P2P01	PROGRAM	1	SCE ENC	YES	YES	YES	YES
P2U01	PROGRAM	1	SCE ENC	YES	YES	YES	YES

LIST CONTAINS 2 MODULES
 6 PROGRAMS
 8 MEMBERS IN TOTAL

DM01541I 8 ENTRIES ADDED TO KEPT-DATA LIST

Here is the DATAMANAGER list of programs and modules in the personnel conventional file systems. Note the use of KEEP AND LIST for the kept-data list to be generated and stored in parallel with processing the LIST command. Now ...

X790

00134 POST ONTO POSTF.
DM00100I POST/MAIL DESTINATION ACCEPTED

00135 POST GLOSSARY KEPT-DATA GIVING NOTES.
DM00099I POST/MAIL COMMAND SUCCESSFULLY COMPLETED

00136 POST ONTO END.
DM00100I POST/MAIL DESTINATION ACCEPTED

PMLIST.

open the post/mail file POSTF,

*post a glossary of programs/modules
giving notes,*

and then close POSTF.

*Now process the posted glossary
(using UIPO1) and print the Software
Summary (using DATAMANAGER).*

* SYSTEMS SOFTWARE DEVELOPMENT SUMMARY *

MEMBER NAME	MEMBER TYPE	ANALYST	PROGRAMMER	DATE DEVELOPED	LAST AMENDMENT
P1I01	MODULE			MARCH 1979	
P1P01	PROGRAM			APRIL 1979	
P1S01	PROGRAM			MARCH 1979	
P1U01	PROGRAM			MARCH 1979	28 AUGUST 1979
P1U02	MODULE			APRIL 1979	
P1V01	PROGRAM			FEBRUARY 1979	15 AUGUST 1979
P2P01	PROGRAM			*****	
P2U01	PROGRAM			MAY 1979	

X790

00153
DM000961STATUS "UI".
NON-FROZEN STATUS UI RECOGNISED

00154

PRINT UIPO1.

PRINT OF UIPO1

```

00100 IDENTIFICATION DIVISION.
00200 PROGRAM-ID.      UIPO1.
00300 ENVIRONMENT DIVISION.
00400 INPUT-OUTPUT SECTION.
00500 FILE-CONTROL.
00600     SELECT CARDS ASSIGN TO SYS006-UR-2540R-S-DMIN
00700     ACCESS MODE IS SEQUENTIAL.
00800 DATA DIVISION.
00900 FILE SECTION.
01000 FD  CARDS
01100     LABEL RECORDS ARE OMITTED
01200     DATA RECORD IS CARDIM.
01300 01  CARDIM PIC X(80).
01400 WORKING-STORAGE SECTION.
01500 77  P1 PIC 99 COMP.
01600 77  P2 PIC 99 COMP.
01700 77  P3 PIC 99 COMP.
01800 01  DCONTROL. COPY DCONTCOB.
01900     02 DINPUT PIC X.
02000 01  DOUTPUT PIC X.
02100 01  DDYNAMIC.
02200     02 DDYNAMLN PIC S9(8) COMP SYNC.
02300     02 DDYNAMVA PIC X.
02400 01  PVREC.
02500     02 RECL PIC S9999 COMP SYNC.
02600     02 FILLER PIC X(2).
02700     02 FILLER PIC X.
02800     02 LTEXT PIC X(28).
02900     02 FILLER REDEFINES LTEXT.
03000         03 OFF1 PIC X(2).
03100         03 MTYPE PIC X(26).
03200     02 FILLER REDEFINES LTEXT.
03300         03 OFF2 PIC X(4).
03400         03 NSTR PIC X(24).
03500     02 FILLER REDEFINES LTEXT.
03600         03 OFF3 PIC X(6).
03700         03 LDATA PIC X(22).
03800     02 FILLER REDEFINES LTEXT.
03900         03 CHAR OCCURS 28 TIMES PIC X.
04000     02 FILLER PIC X(232).
04100 01  PMLIST-HEADER.
04200     02 FILLER PIC X(40) VALUE
04300         "MEMBER NAME" MEMBER TYPE
04400     02 FILLER PIC X(40) VALUE
04500         "ANALYST" PROGRAMMER
04600     02 FILLER PIC X(40) VALUE
04700         "DATE DEVELOPED" LAST AMENDMENT
04800 01  TEXT-CALL.
04900     02 FILLER PIC X(6) VALUE "TEXT ".
05000     02 FILLER PIC X(5) VALUE SPACE.
05100     02 REPORT-LINE.
05200         03 LINE-ENTRY PIC X(20) OCCURS 6 TIMES.
05300     02 FILLER PIC XX VALUE "...".
05400 PROCEDURE DIVISION.
05500     MOVE LOW-VALUES TO DCONTROL.
05600     MOVE "DM00" TO DDMR.
05700     MOVE 1 TO DOPTION1 DOPTION3 DOPTION8 DFUNC.
05800     MOVE 0 TO DBUFFLEN DOUTLEN DDYNAMLN.
05900     OPEN INPUT CARDS.
06000 NEXT-CARD.
06100     READ CARDS AT END CLOSE CARDS STOP RUN.
06200     IF CARDIM IS EQUAL TO "PMLIST." GO TO DMR-UI.
06300     MOVE 3 TO DOPTION2.
06400     PERFORM CALLODMR.
06500     IF CARDIM IS EQUAL TO "END." CLOSE CARDS STOP RUN.
06600     GO TO NEXT-CARD.
06700 DMR-UI.
06800     MOVE ZERO TO DOPTION2, MOVE 1 TO P2.
06900     MOVE CARDIM TO REPORT-LINE.
07000     MOVE "SKIP." TO CARDIM PERFORM CALLODMR.
07100     PERFORM CALLTEXT.
07200     MOVE "SPACE 3." TO CARDIM PERFORM CALLODMR.
07300     MOVE "A SYSTEMS SOFTWARE D" TO LINE-ENTRY (3).
07400     MOVE "EVELOPMENT SUMMARY " TO LINE-ENTRY (4).
07500     PERFORM CALLTEXT.
07600     MOVE "SPACE 2." TO CARDIM PERFORM CALLODMR.
07700     MOVE PMLIST-HEADER TO REPORT-LINE.
07800 PL1.
07900     MOVE ZERO TO RECL, CALL "IOR3" USING PVREC.
08000     IF RECL IS LESS THAN 5 MOVE 1 TO RECL CALL "IOR3" USING PVREC
08100     MOVE "SKIP." TO CARDIM PERFORM CALLODMR GO TO NEXT-CARD.
08200     PERFORM BLANKS VARYING P1 FROM 28 BY -1
08300     UNTIL P1 IS LESS THAN (RECL - 4).
08400     IF OFF1 IS EQUAL TO SPACE GO TO PL1 PL2 PL3 PL4
08500     DEPENDING ON P2.
08600     IF OFF3 IS EQUAL TO "GLOSSA" MOVE 1 TO P2
08700     PERFORM CALLTEXT GO TO PL1.
08800     PERFORM CALLTEXT, MOVE LTEXT TO LINE-ENTRY (1)

```

In status UI we have source prints
of UIPO1 (COBOL) and IOR3 (BAL).

Here is UIPO1 in COBOL (DOS VS).

DATAMANAGER Control Block. DINPUT
and DOUTPUT areas are not required.

POSTF record returned by IOR3. MSP
supply standard DATAMANAGER post
output record layouts for copying
into the User Interface program.

DATAMANAGER initialisation.

Select DATAMANAGER printer output
input from user defined buffer. The
output buffer is not used.

Normal DATAMANAGER input/output.
Input line print is required.

PMLIST processing. Generated
input line print is not required.
Note that DATAMANAGER SKIP, SPACE
and TEXT commands are used to print
the output.

X790

```

08900      MOVE "*****" TO LINE-ENTRY (5), MOVE 2 TO P2 GO TO PL1.
09000
09100      PL2.
09200      MOVE MTYPE TO LINE-ENTRY (2) MOVE 3 TO P2 GO TO PL1.
09300      PL3.
09400      IF OFF2 IS NOT EQUAL TO SPACE GO TO PL1.
09500      IF NSTR IS EQUAL TO "ANALYST"
09600      MOVE 4 TO P2 MOVE 3 TO P3 GO TO PL1.
09700      IF NSTR IS EQUAL TO "PROGRAMMER"
09800      MOVE 4 TO P2 MOVE 4 TO P3 GO TO PL1.
09900      IF NSTR IS EQUAL TO "DATES DEVELOPED"
10000      MOVE 4 TO P2 MOVE 5 TO P3 GO TO PL1.
10100      IF NSTR IS EQUAL TO "DATE LAST AMENDED"
10200      MOVE 4 TO P2 MOVE 6 TO P3 GO TO PL1.
10300      MOVE 3 TO P2 GO TO PL1.
10400      PL4.
10500      MOVE LDATA TO LINE-ENTRY (P3) MOVE 3 TO P2 GO TO PL1.
10600      BLANKS.
10700      MOVE SPACE TO CHAR (P1).
10800      CALLDNR.
10900      MOVE 80 TO DINPLREC DINPLEN.
11000      CALL "DMRUS" USING DCONTROL DOUTPUT DDYNAMIC CARDIM.
11100      IF (DRETURN2 IS EQUAL TO 3) OR
11200      (DSEVRITY IS EQUAL TO "S" OR "C" OR "E")
11300      DISPLAY "DATAMANAGER DETECTED ERROR" UPON SYSLST
11400      STOP RUN.
11500      CALLTEXT.
11600      MOVE 133 TO DINPLREC DINPLEN.
11700      CALL "DMRUS" USING DCONTROL DOUTPUT DDYNAMIC TEXT-CALL.
      MOVE SPACE TO REPORT-LINE.
END OF PRINT

```

00155 PRINT IOR3.

Here is IOR3, the post file input
module coded in DOS VSE Assembler.

```

00100      PRINT OF IOR3
00200      IOR3      CSECT
00300      TITLE 'POSTF INPUT MODULE'
00400      STM 14,12,12(13)      SAVE REGS
00500      USING IOR3,10
00600      LR 10,15      MODULE BASE
00700      LR 3,13
00800      LA 13,SAVE      SAVE AREA
00900      ST 3,4(13)      CHAIN BACK
01000      ST 13,8(3)      CHAIN FORWARD.
01100      L 2,0(1)      RECORD AREA.
01200      OC 0(2,2),0(2)      CLOSE REQUIRED.
01300      BNZ EOF      YES-BRANCH
01400      REOPEN      NOP      NOOPEN      SKIP OPEN 2ND TIME
01500      OI *-3,240
01600      OPEN      POSTF
01700      NOOPEN      EQU *
01800      GET      POSTF,(2)      GET NEXT RECORD
01900      RETURN      EQU *
02000      L 13,4(13)      PREVIOUS SAVE AREA.
02100      LM 14,12,12(13)      RESET REGS.
02200      BR 14      RETURN
02300      SPACE 2
02400      EOF      EQU *
02500      CLOSE      POSTF
02600      XC 0(2,2),0(2)      INDIC EOF
02700      NI REOPEN+1,15      RE-OPEN ON NEXT READ.
02800      B RETURN
02900      LTORG
03000      SAVE      DS 18A(0)
03100      SPACE 2
03200      POSTF      DTFSDBLKSIZE=3156,EOFADDR=EOF,IOAREA1=IN1,IOAREA2=IN2,
03300      DEVADDR=SYS010,DEVICE=2314,WORKA=YES,RECSIZE=600,
03400      RECFORM=VARBLK
03500      SPACE 2
03600      SPACE 2
03700      IN1      DS CL3156
03800      IN2      DS CL3156
03900      END
END OF PRINT

```

CHAPTER 11

DATAMANAGER CHANGE DEMONSTRATION (X900)

COMMANDS DEMONSTRATED	DESCRIPTION
STATUS 'CONV'. COPY EMPLOYEE-SALARY TO EMPLOYEE-SALARY-HISTORY. MODIFY EMPLOYEE-SALARY-HISTORY. 10 OBSOLETE-DEFINITION 20 NOTE 30 'THIS DEFINITION WAS CURRENT FROM 1979 -1980' 40 SEE EMPLOYEE-SALARY 50 ARCHIVE KEEP AND LIST EXCEPT FILES WHEN ANY EQ 'EMP'. DROP LIST KEPT-DATA GROUPS. LIST KEPT-DATA. MODIFY EMPLOYEE-SALARY-HISTORY. LOCATE 'OBSOLETE-DEFINITION' LINE ITEM LOCATE 'ARCHIVE' DELETE LINE LOCATE NEXT 'ITEM' DELETE LINE REMOVE EMPLOYEE-SALARY-HISTORY. PRINT P1-ERS-NEW-MEMBERS. PERFORM COMMAND-STREAM P1-ERS-NEW-MEMBERS MEMBER P1-ERS. PRODUCE COBOL FROM P1U02MEMP NOGEN PRINT USING HELD-AS VERSION 2 ALIAS COBOL. SWITCH OFF MESSAGES. PRODUCE COBOL FROM P1U02MEMP NOGEN PRINT USING HELD-AS VERSION 2 ALIAS COBOL. SWITCH ON MESSAGES. SWITCH ON NAME-CONCATENATION SELECT NAME,ALIAS LOW-LEVEL. LIST ONLY 'TRANSACTION'. SWITCH OFF NAME.	To show newly released general-usage features of DATAMANAGER Release 4.0 and 4.1. New database and MARKIV related features of DATAMANAGER Releases 4.0 and 4.1 are shown in Demonstrations X400 to X750. Examples of new clauses and selections for the GLOSSARY and WHICH commands are given in Demonstration X360. The reader is assumed to be an experienced DATAMANAGER user.

00158 STATUS 'CONV'.
 DM00096I NON-FROZEN STATUS CONV RECOGNISED

 00159 COPY EMPLOYEE-SALARY TO EMPLOYEE-SALARY-HISTORY.
 DM01632I COPY SUCCESSFULLY COMPLETED

 00160 MODIFY EMPLOYEE-SALARY-HISTORY.
 00161 10 OBSOLETE-DEFINITION
 00162 20 NOTE
 00163 30 'THIS DEFINITION WAS CURRENT FROM 1979 -1980'
 00164 40 SEE EMPLOYEE-SALARY
 00165 50 ARCHIVE
 00166
 DM01180I ALTERATION HAS CREATED NEW SOURCE RECORD
 DM01296I ENCODING OF EMPLOYEE-SALARY-HISTORY
 OBSOLETE-DEFINITION
 00010
 00020 NOTE
 00030 'THIS DEFINITION WAS CURRENT FROM 1979 -1980'
 00040 SEE EMPLOYEE-SALARY
 00050 ARCHIVE
 00100 ITEM
 00200 HELD-AS NUMERIC 5 CONTENTS RANGE 10000 TO 50000
 00300 REPORTED-AS PICTURE '£B99,999'
 00400 ENTERED-AS NUMERIC 5
 07000 ALIAS LOW-LEVEL 'EMPSAL'
 08000 CATALOG 'SALARY', 'NUMERIC'
 09000 DESCRIPTION
 09100 'YEARLY SALARY. INCLUDES GEOGRAPHICAL ALLOWANCES'
 DM01280I EMPLOYEE-SALARY-HISTORY SUCCESSFULLY ENCODED

The new member definition, OBSOLETE-DEFINITION, enables definitions of obsolete members that are retained in the dictionary to be made invisible to the user during dictionary documentation and interrogation (unless specified in member type clauses). Let us modify a copy of an existing definition to make it an OBSOLETE-DEFINITION

X900

00167 KEEP AND LIST EXCEPT FILES WHEN ANY EQ 'EMP'.

... then show that the obsolete member, EMPLOYEE-SALARY-HISTORY, is not included in a KEPT-DATA list. Note how the new EXCEPT clause

LIST OF MEMBERS MEMBER NAME	TYPE	USAGE	CONDITION	AC	ALT	REM	OWNER
EMPLOYEE-AFTER-UPDATE	ITEM	1	SCE	ENC	YES	YES	YES
EMPLOYEE-BEFORE-UPDATE	ITEM	2	SCE	ENC	YES	YES	YES
EMPLOYEE-CODE	ITEM	8	SCE	ENC	YES		PERSONNEL
EMPLOYEE-DATA	GROUP	1	SCE	ENC	YES	YES	YES
EMPLOYEE-DEPARTMENT	ITEM	4	SCE	ENC	YES		PERSONNEL
EMPLOYEE-IDENTIFICATION	GROUP	1	SCE	ENC	YES	YES	YES
EMPLOYEE-LEAVERS	ITEM	1	SCE	ENC	YES	YES	YES
EMPLOYEE-MASTER-RECORD	GROUP	1	SCE	ENC	YES	YES	YES
EMPLOYEE-NAME	ITEM	2	SCE	ENC	YES		PERSONNEL
EMPLOYEE-NEWCOMERS	ITEM	2	SCE	ENC	YES	YES	YES
EMPLOYEE-REPORT-DATA	GROUP	1	SCE	ENC	YES	YES	YES
EMPLOYEE-REPORT-HEADER	GROUP	3	SCE	ENC	YES	YES	YES
EMPLOYEE-SALARY	ITEM	3	SCE	ENC	YES		PERSONNEL
EMPLOYEE-STREET	ITEM	1	SCE	ENC	YES	YES	YES
EMPLOYEE-TELEPHONE	ITEM	1	SCE	ENC	YES	YES	YES
EMPLOYEE-TOWN	ITEM	1	SCE	ENC	YES	YES	YES
EMPLOYEE-TRANSACTIONS-FORM	GROUP	2	SCE	ENC	YES	YES	YES
EMPLOYING-COMPANY	ITEM	1	SCE	ENC	YES	YES	YES

LIST CONTAINS 12 ITEMS
6 GROUPS
18 MEMBERS IN TOTAL

DMO1541I 18 ENTRIES ADDED TO KEPT-DATA LIST

00168 DROP LIST KEPT-DATA GROUPS.
DMO1543I 6 ENTRIES DROPPED FROM KEPT-DATA LIST

... and the new DROP command allow increased selectivity.

00169 LIST KEPT-DATA.

LIST OF SELECTED MEMBERS MEMBER NAME	TYPE	USAGE	CONDITION	AC	ALT	REM	OWNER
EMPLOYEE-AFTER-UPDATE	ITEM	1	SCE	ENC	YES	YES	YES
EMPLOYEE-BEFORE-UPDATE	ITEM	2	SCE	ENC	YES	YES	YES
EMPLOYEE-CODE	ITEM	8	SCE	ENC	YES		PERSONNEL
EMPLOYEE-DEPARTMENT	ITEM	4	SCE	ENC	YES		PERSONNEL
EMPLOYEE-LEAVERS	ITEM	1	SCE	ENC	YES	YES	YES
EMPLOYEE-NAME	ITEM	2	SCE	ENC	YES		PERSONNEL
EMPLOYEE-NEWCOMERS	ITEM	2	SCE	ENC	YES	YES	YES
EMPLOYEE-SALARY	ITEM	3	SCE	ENC	YES		PERSONNEL
EMPLOYEE-STREET	ITEM	1	SCE	ENC	YES	YES	YES
EMPLOYEE-TELEPHONE	ITEM	1	SCE	ENC	YES	YES	YES
EMPLOYEE-TOWN	ITEM	1	SCE	ENC	YES	YES	YES
EMPLOYING-COMPANY	ITEM	1	SCE	ENC	YES	YES	YES

LIST CONTAINS 12 ITEMS
12 MEMBERS IN TOTAL

00170 MODIFY EMPLOYEE-SALARY-HISTORY.
00171 LOCATE 'OBSOLETE-DEFINITION'
00000010 OBSOLETE-DEFINITION
00172 LINE ITEM
00173 LOCATE 'ARCHIVE'
00000050 ARCHIVE
00174 DELETE LINE
DMO1187I 1 LINES DELETED
00175 LOCATE NEXT 'ITEM'
00000100 ITEM
00176 DELETE LINE
DMO1187I 1 LINES DELETED
00177
DMO1180I ALTERATION HAS CREATED NEW SOURCE RECORD
DMO1296I ENCODING OF EMPLOYEE-SALARY-HISTORY
00010 ITEM
00020 NOTE
00030 'THIS DEFINITION WAS CURRENT FROM 1979 -1980'
00040 SEE EMPLOYEE-SALARY
00200 HELD-AS NUMERIC 5 CONTENTS RANGE 10000 TO 50000
00300 REPORTED-AS PICTURE 'ZB99,999'
00400 ENTERED-AS NUMERIC 5
07000 ALIAS LOW-LEVEL 'EMPSAL'
08000 CATALOG 'SALARY', 'NUMERIC'
09000 DESCRIPTION
09100 'YEARLY SALARY. INCLUDES GEOGRAPHICAL ALLOWANCES'
DMO1280I EMPLOYEE-SALARY-HISTORY SUCCESSFULLY ENCODED

To change EMPLOYEE-SALARY-HISTORY back to an ITEM definition, we can use a combination of the LOCATE clause and the new LINE clause of the MODIFY command. This enables us to change a definition without knowing the line numbers, simply the text to be changed.

00178 REMOVE EMPLOYEE-SALARY-HISTORY.
DMO1251I EMPLOYEE-SALARY-HISTORY REMOVED FROM DICTIONARY

Now remove EMPLOYEE-SALARY-HISTORY to return the dictionary to an unchanged state. Now let us first print then activate a COMMAND-STREAM. This produces a report of any updating of the dictionary which has occurred during a given period of time by three different classes of user. (Note that output may be different according to dictionary usage.)

00179 PRINT P1-ERS-NEW-MEMBERS.

PRINT OF P1-ERS-NEW-MEMBERS

COMMAND-STREAM

00200 DESCRIPTION 'THIS MEMBER GIVES DETAILS OF NEW MEMBER DEFINITIONS INTRODUCED
00300 'SINCE THE START OF YEAR'

00400 CONTENTS

X900

00500 TEXT
00600
00700 'REPORT OF NEW AND AMENDED MEMBER DEFINITIONS SINCE 1ST JANUARY 1982',
00800 'BY ANALYST,PERSONNEL MANAGER AND PROGRAMMER',
00900
01000 'CIRCULATION AJ,PL,MM',
01100
01200 KEEP WHAT CONSTITUTES P1-ERS.
01300 TEXT 'NEW/ANALYST'
01400
01500 LIST KEPT-DATA ALPHABETICALLY IF INTRODUCED AFTER 01/01/82 AT 00/00/01 BY USER
01600 'ANALYST'
01700 TEXT 'NEW/PERSONNEL MANAGER'
01800
01900 LIST KEPT-DATA ALPHABETICALLY IF INTRODUCED AFTER 01/01/82 AT 00/00/01 BY USER
02000 'PERSONNEL-MANAGER'.
02100 TEXT 'NEW/PROGRAMMER'
02200
02300 LIST KEPT-DATA ALPHABETICALLY IF INTRODUCED AFTER 01/01/82 AT 00/00/01 BY USER
02400 'PROGRAMMER'.
02500 TEXT 'AMENDED/ANALYST'
02600
02700 LIST KEPT-DATA ALPHABETICALLY IF AMENDED AFTER 01/01/82 AT 00/00/01 BY USER
02800 'ANALYST'.
02900 TEXT 'AMENDED/PERSONNEL MANAGER'
03000
03100 LIST KEPT-DATA ALPHABETICALLY IF AMENDED AFTER 01/01/82 AT 00/00/01 BY USER
03200 'PERSONNEL-MANAGER'.
03300 TEXT 'AMENDED/PROGRAMMER'
03400
03500 LIST KEPT-DATA ALPHABETICALLY IF AMENDED AFTER 01/01/82 AT 00/00/01 BY USER
03600 'PROGRAMMER'.
END OF PRINT

00180 PERFORM COMMAND-STREAM P1-ERS-NEW-MEMBERS
00181 MEMBER P1-ERS.

DMO1551I 32 GENERATED INPUT LINES

REPORT OF NEW AND AMENDED MEMBER DEFINITIONS SINCE 1ST JANUARY 1982
BY ANALYST,PERSONNEL MANAGER AND PROGRAMMER

CIRCULATION AJ,PL,MM

DMO1541I 54 ENTRIES ADDED TO KEPT-DATA LIST
NEW/ANALYST

LIST OF SELECTED MEMBERS

LIST CONTAINS 0 MEMBERS IN TOTAL

NEW/PERSONNEL MANAGER

LIST OF SELECTED MEMBERS

LIST CONTAINS 0 MEMBERS IN TOTAL

NEW/PROGRAMMER

LIST OF SELECTED MEMBERS

LIST CONTAINS 0 MEMBERS IN TOTAL

AMENDED/ANALYST

LIST OF SELECTED MEMBERS

MEMBER NAME	TYPE	USAGE	CONDITION	AC	ALT	REM	OWNER
-------------	------	-------	-----------	----	-----	-----	-------

STANDARD-DATE	ITEM	4	SCE	ENC	YES	YES	YES
TRANSACTION-CODE	ITEM	4	SCE	ENC	YES	YES	YES
TRANSACTION-DATA	ITEM	2	SCE	ENC	YES	YES	YES
TRANSACTION-DATE	ITEM	2	SCE	ENC	YES	YES	YES

LIST CONTAINS 4 ITEMS
4 MEMBERS IN TOTAL

AMENDED/PERSONNEL MANAGER

LIST OF SELECTED MEMBERS

LIST CONTAINS 0 MEMBERS IN TOTAL

AMENDED/PROGRAMMER

LIST OF SELECTED MEMBERS

LIST CONTAINS 0 MEMBERS IN TOTAL

X900

00214
00215PRODUCE COBOL FROM P1U02MEMP NOGEN PRINT
USING HELD-AS VERSION 2 ALIAS COBOL.

```

DM02273W      MEMBER NAME USED INSTEAD OF REQUESTED ALIAS
FD P1U02MEMP
   BLOCK CONTAINS 205 CHARACTERS
   LABEL RECORDS ARE STANDARD
DM02273W      MEMBER NAME USED INSTEAD OF REQUESTED ALIAS
   DATA RECORD IS EMPLOYEE-MASTER-RECORD.
01 EMPLOYEE-MASTER-RECORD.
   EMPLOYEE-MASTER-RECORD MEMBER NAME USED INSTEAD OF REQUESTED ALIAS
   02 EMPLOYEE-CODE          PIC 9(4).
DM02272W      REQUESTED FORM/VERSION OF NAME IS NOT AVAILABLE
DM02271W      EMPLOYEE-CODE IS HELD-AS VERSION 01
DM02273W      EMPLOYEE-CODE MEMBER NAME USED INSTEAD OF REQUESTED ALIAS
   02 EMPLOYEE-IDENTIFICATION.
DM02273W      EMPLOYEE-IDENTIFICATION MEMBER NAME USED INSTEAD OF REQUESTED ALIAS
   04 EMPLOYEE-NAME          PIC X(30).
DM02272W      REQUESTED FORM/VERSION OF NAME IS NOT AVAILABLE
DM02271W      EMPLOYEE-NAME IS HELD-AS VERSION 01
DM02273W      EMPLOYEE-NAME MEMBER NAME USED INSTEAD OF REQUESTED ALIAS
   04 EMPLOYEE-STREET        PIC X(40).
DM02272W      REQUESTED FORM/VERSION OF NAME IS NOT AVAILABLE
DM02271W      EMPLOYEE-STREET IS HELD-AS VERSION 01
DM02273W      EMPLOYEE-STREET MEMBER NAME USED INSTEAD OF REQUESTED ALIAS
   04 EMPLOYEE-TOWN          PIC X(20).
DM02272W      REQUESTED FORM/VERSION OF NAME IS NOT AVAILABLE
DM02271W      EMPLOYEE-TOWN IS HELD-AS VERSION 01
DM02273W      EMPLOYEE-TOWN MEMBER NAME USED INSTEAD OF REQUESTED ALIAS
   04 EMPLOYEE-TELEPHONE     PIC 9(10).
DM02272W      REQUESTED FORM/VERSION OF NAME IS NOT AVAILABLE
DM02271W      EMPLOYEE-TELEPHONE IS HELD-AS VERSION 01
DM02273W      EMPLOYEE-TELEPHONE MEMBER NAME USED INSTEAD OF REQUESTED ALIAS
   02 EMPLOYEE-DEPARTMENT    PIC 999.
DM02272W      REQUESTED FORM/VERSION OF NAME IS NOT AVAILABLE
DM02271W      EMPLOYEE-DEPARTMENT IS HELD-AS VERSION 01
DM02273W      EMPLOYEE-DEPARTMENT MEMBER NAME USED INSTEAD OF REQUESTED ALIAS
   02 EMPLOYEE-SALARY        PIC 9(5).
DM02272W      REQUESTED FORM/VERSION OF NAME IS NOT AVAILABLE
DM02271W      EMPLOYEE-SALARY IS HELD-AS VERSION 01
DM02273W      EMPLOYEE-SALARY MEMBER NAME USED INSTEAD OF REQUESTED ALIAS
   02 EDUCATION.
DM02273W      EDUCATION MEMBER NAME USED INSTEAD OF REQUESTED ALIAS
   04 COLLEGE-NAME          PIC X(30).
DM02272W      REQUESTED FORM/VERSION OF NAME IS NOT AVAILABLE
DM02271W      COLLEGE-NAME IS HELD-AS VERSION 01
DM02273W      COLLEGE-NAME MEMBER NAME USED INSTEAD OF REQUESTED ALIAS
   04 QUALIFICATIONS         PIC X(10).
DM02272W      REQUESTED FORM/VERSION OF NAME IS NOT AVAILABLE
DM02271W      QUALIFICATIONS IS HELD-AS VERSION 01
DM02273W      QUALIFICATIONS MEMBER NAME USED INSTEAD OF REQUESTED ALIAS
   02 EXPERIENCE.
DM02273W      EXPERIENCE MEMBER NAME USED INSTEAD OF REQUESTED ALIAS
   04 EMPLOYING-COMPANY      PIC X(30).
DM02272W      REQUESTED FORM/VERSION OF NAME IS NOT AVAILABLE
DM02271W      EMPLOYING-COMPANY IS HELD-AS VERSION 01
DM02273W      EMPLOYING-COMPANY MEMBER NAME USED INSTEAD OF REQUESTED ALIAS
   04 EXPERIENCE-CODE        PIC 99.
DM02272W      REQUESTED FORM/VERSION OF NAME IS NOT AVAILABLE
DM02271W      EXPERIENCE-CODE IS HELD-AS VERSION 01
DM02273W      EXPERIENCE-CODE MEMBER NAME USED INSTEAD OF REQUESTED ALIAS
   04 EXPERIENCE-YRS         PIC 99.
DM02272W      REQUESTED FORM/VERSION OF NAME IS NOT AVAILABLE
DM02271W      EXPERIENCE-YRS IS HELD-AS VERSION 01
DM02273W      EXPERIENCE-YRS MEMBER NAME USED INSTEAD OF REQUESTED ALIAS
   02 TAX-CODE               PIC 9(4).
DM02272W      REQUESTED FORM/VERSION OF NAME IS NOT AVAILABLE
DM02271W      TAX-CODE IS HELD-AS VERSION 01
DM02273W      TAX-CODE MEMBER NAME USED INSTEAD OF REQUESTED ALIAS
   02 SOCIAL-SECURITY-CODE   PIC X(15).
DM02272W      REQUESTED FORM/VERSION OF NAME IS NOT AVAILABLE
DM02271W      SOCIAL-SECURITY-CODE IS HELD-AS VERSION 01
DM02273W      SOCIAL-SECURITY-CODE MEMBER NAME USED INSTEAD OF REQUESTED ALIAS

DM02217I      P1U02MEMP SUCCESSFULLY GENERATED

```

When executing certain commands, DATAMANAGER may not be able to process all options specified, but may use default values or make substitutions and output the appropriate message. For example, in this PRODUCE command, no version 2 or COBOL alias is available for any member. In cases where default values are acceptable, and the user has no need to be informed of any substitutions, output can be improved by switching off any informatory or warning messages.

X900

00216
DM00107I

SWITCH OFF MESSAGES.
COMMAND PROCESSED

00217
00218

PRODUCE COBOL FROM PIU02MEMP NOGEN PRINT
USING HELD-AS VERSION 2 ALIAS COBOL.

FD PIU02MEMP
BLOCK CONTAINS 205 CHARACTERS
LABEL RECORDS ARE STANDARD
DATA RECORD IS EMPLOYEE-MASTER-RECORD.
01 EMPLOYEE-MASTER-RECORD.
02 EMPLOYEE-CODE PIC 9(4).
02 EMPLOYEE-IDENTIFICATION.
04 EMPLOYEE-NAME PIC X(30).
04 EMPLOYEE-STREET PIC X(40).
04 EMPLOYEE-TOWN PIC X(20).
04 EMPLOYEE-TELEPHONE PIC 9(10).
02 EMPLOYEE-DEPARTMENT PIC 999.
02 EMPLOYEE-SALARY PIC 9(5).
02 EDUCATION.
04 COLLEGE-NAME PIC X(30).
04 QUALIFICATIONS PIC X(10).
02 EXPERIENCE.
04 EMPLOYING-COMPANY PIC X(30).
04 EXPERIENCE-CODE PIC 99.
04 EXPERIENCE-YRS PIC 99.
02 TAX-CODE PIC 9(4).
02 SOCIAL-SECURITY-CODE PIC X(15).

00219
DM00107I

SWITCH ON MESSAGES.
COMMAND PROCESSED

*Now the output can be read
more easily.*

X900

00220 SWITCH ON NAME-CONCATENATION SELECT
00221 NAME, ALIAS LOW-LEVEL.
DM00107I COMMAND PROCESSED
00222 LIST ONLY "TRANSACTION".

LIST OF MEMBERS
MEMBER NAME TYPE USAGE CONDITION AC ALT REM OWNER

TRANSACTION-CODE EMPTRANS ITEM 4 SCE ENC YES YES YES
TRANSACTION-DATA EMPTRADA ITEM 2 SCE ENC YES YES YES
TRANSACTION-DATE EMPDATE ITEM 2 SCE ENC YES YES YES
TRANSACTION-RECORD TRANSREC GROUP 4 SCE ENC YES YES YES
TRANSACTION-TOTAL EMPTRAN ITEM 1 SCE ENC YES YES YES

LIST CONTAINS 4 ITEMS
1 GROUP
5 MEMBERS IN TOTAL

00223 SWITCH OFF NAME.
DM00107I COMMAND PROCESSED

*Extra information can be
output from some interrogation
commands by first switching
on name concatenation and
specifying what further details
are required.*

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AMENDMENT
RECORD

This manual when issued should contain 172 pages (86 sheets), comprising:

Preliminary pages	4 pages (2 sheets)
Chapter 1	4 pages (2 sheets)
Chapter 2	8 pages (4 sheets)
Chapter 3	66 pages (33 sheets)
Chapter 4	12 pages (6 sheets)
Chapter 5	10 pages (5 sheets)
Chapter 6	14 pages (7 sheets)
Chapter 7	14 pages (7 sheets)
Chapter 8	10 pages (5 sheets)
Chapter 9	8 pages (4 sheets)
Chapter 10	4 pages (2 sheets)
Chapter 11	6 pages (3 sheets)
General Index	6 pages (3 sheets)
Command Index	4 pages (2 sheets)
Amendment Record	2 pages (1 sheet)

in addition to the nine divider sheets containing the headings of Chapters 3 to 11.

(Blank pages occurring at the end of chapters or appendices are included in the page counts.)

Please check that all pages are present immediately on receipt. If any pages are missing, please inform your local MSP Product Supplier without delay.

If any updates to the information contained in this manual become necessary, additional or replacement pages will be issued. Such pages will be accompanied by a front sheet, the amendment list, detailing the action required to update the manual. On completion of the updating, the amendment list should be filed behind this page. An entry should be made in the table overleaf to record the action taken.

Each page of this manual is annotated (immediately above the page reference) with the publication date of the page. Update pages will be similarly annotated. It is thus always possible to check that the latest version of a page is held.

Amendment List No.	Date of Incorporation	Initials	Notes

